

Regional Airport System Planning Analysis

2011 Update

Volume 4: **Public Meeting Reports**

- Mid-Point Meeting Summary Report
May 2010
- Round 2 Meeting Summary Report
April 2011



Prepared for the **Regional Airport Planning Committee**



Prepared by
SH&E
an ICF International Company

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MID-POINT MEETINGS SUMMARY REPORT

May 2010



TABLE OF CONTENTS

1. Meeting Overview	1
2. Meeting Format and Presentation Information	1
3. Individual Meetings	7
SOUTH SAN FRANCISCO, MAY 10, 2010.....	7
FAIRFIELD, MAY 11, 2010	9
OAKLAND, MAY 12, 2010.....	15
4. Evaluation.....	20
SOUTH SAN FRANCISCO, MAY 10, 2010.....	21
Workshop Profile: "Let's Learn About You"	22
FAIRFIELD, MAY 11, 2010	24
Workshop Profile: "Let's Learn About You"	24
OAKLAND, MAY 12, 2010.....	26
Workshop Profile: "Let's Learn About You"	27

1. MEETING OVERVIEW

The outreach program for the Regional Airport Study involved a series of public workshops held in South San Francisco, Fairfield, and Oakland on May 10, 11, and 12, 2010. About 85 people participated in the workshops and provided comment through electronic polling and focused discussion of airport issues and demand distribution scenarios. The workshops were used to present aviation forecasts, runway capacity issues, and the analytical results of six scenarios that would distribute airport activity throughout the region. The scenario analysis compared the relative success of each scenario with the following seven project goals:

- ♦ **Reliable Runways** *Can we reduce flight delays and passenger inconvenience?*
- ♦ **Healthy Economy** *Can the region serve future aviation demand and support a healthy economy?*
- ♦ **Good Passenger Service** *Can we provide better service to the region's major air travel markets?*
- ♦ **Convenient Airports** *Can we maintain or improve airport ground access times and distance?*
- ♦ **Climate Protection** *Can we decrease greenhouse gas (GHG) emissions from aircraft and air passengers traveling to airports?*
- ♦ **Clean Air** *Can we decrease air pollution from aircraft and air passengers traveling to airports?*
- ♦ **Livable Communities** *Can we avoid increasing the regional population exposed to aircraft noise?*

At each meeting, this information was communicated to participants for the purpose of identifying strategies for accommodating the region's long-term aviation demand by combining components of each scenario to more effectively use and enhance existing infrastructure and facilities without building additional runways at the primary airports.

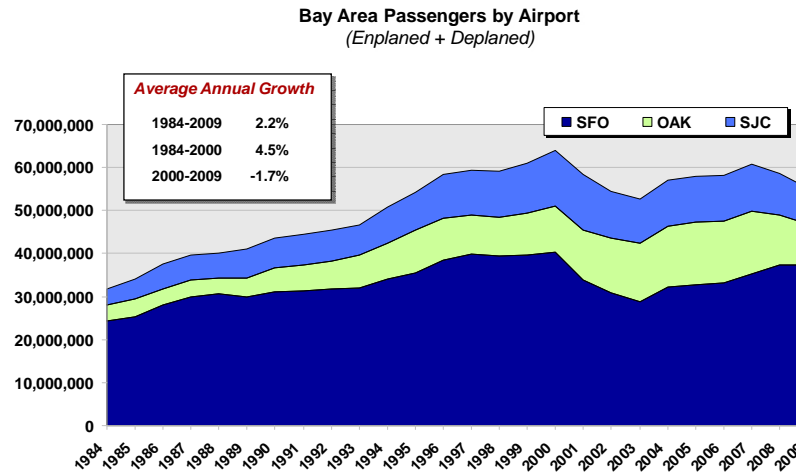
2. MEETING FORMAT AND PRESENTATION INFORMATION



At each meeting, a Regional Airport Commission (RAPC) member welcomed participants and introduced the study topics that would be discussed. Doug Kimsey (MTC Director) provided an overview of the need for the Regional Airport Study and David Hollander (SH&E) used a PowerPoint presentation to review the background information and scenarios. The meetings included time for discussion and audience feedback. The following information was presented at each meeting.

Regional Aviation Forecasts

Bay Area Airports Handled 55.1M Passengers in 2009 After Peaking at 64M in 2000



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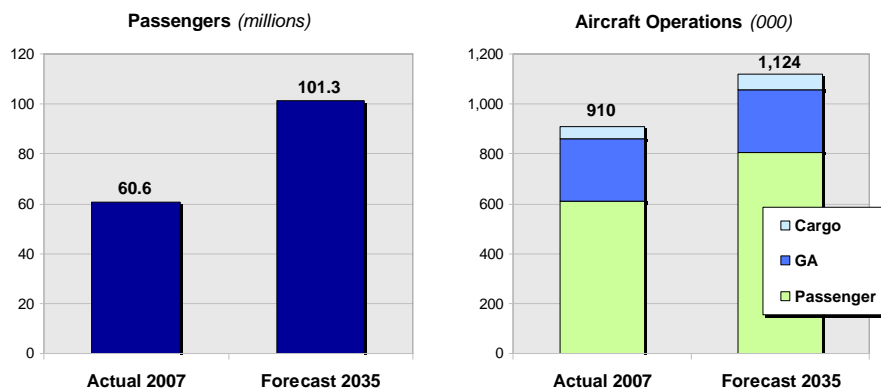
Source: ACI, and individual airport statistics.

4

Regional Aviation Forecasts

By 2035, Regional Air Passengers are Forecast to Reach 101M, and Aircraft Operations Will Exceed 1M

Actual and Forecast Regional Aviation Demand
2007 and 2035



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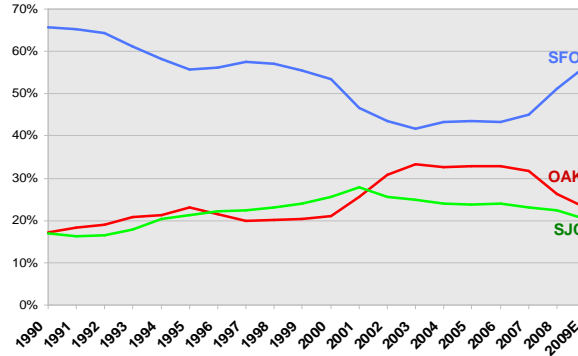
Source: SH&E analysis.

5

Individual Airport Forecasts

Historically, OAK and SJC Increased Their Regional Passenger Shares, but Recent Developments Have Eroded Those Gains

Primary Airport Shares of Bay Area Domestic O&D Passengers
CY 1990 – CY 2009



Share of Bay Area Dom O&D Psgrs			
Year	OAK	SFO	SJC
1990	17.2%	65.6%	17.1%
1991	18.4%	65.2%	16.4%
1992	19.1%	64.3%	16.6%
1993	20.9%	61.2%	17.9%
1994	21.4%	58.3%	20.3%
1995	23.1%	55.7%	21.2%
1996	21.5%	56.1%	22.3%
1997	20.0%	57.5%	22.5%
1998	20.1%	57.0%	23.0%
1999	20.5%	55.5%	24.1%
2000	21.1%	53.4%	25.5%
2001	25.6%	46.6%	27.8%
2002	30.9%	43.4%	25.7%
2003	33.4%	41.6%	25.0%
2004	32.6%	43.3%	24.1%
2005	32.8%	43.4%	23.8%
2006	32.9%	43.2%	24.0%
2007	31.7%	45.1%	23.2%
2008	26.3%	51.2%	22.5%
2009E	23.1%	56.5%	20.4%

The 2007 Entry of Southwest Airlines, Virgin America and JetBlue Produced a Major Increase in SFO's Share of Bay Area Domestic Passengers



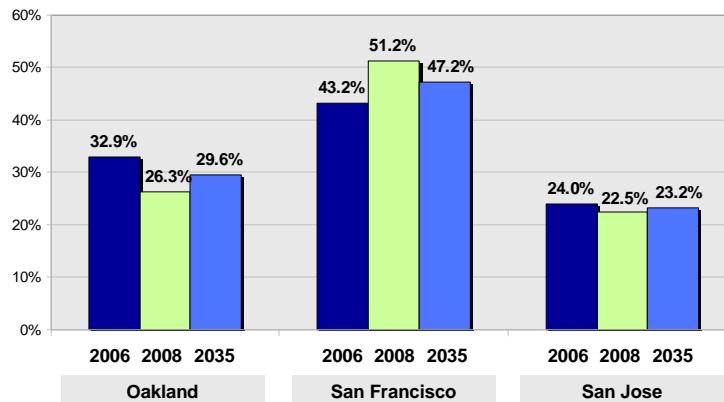
Source: ACI-NA Airport Traffic Statistics; Airport Data

7

Individual Airport Forecasts

From 2006 to 2008, There Was a Major Shift of Domestic Traffic From OAK to SFO

Airport Shares of Domestic O&D Passengers

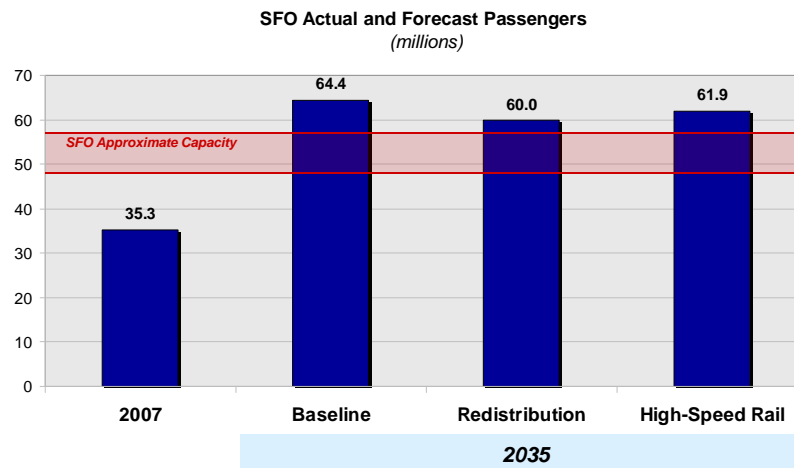


Source: U.S. DOT Origin and Destination Survey, Airport Records, SH&E Analysis

8

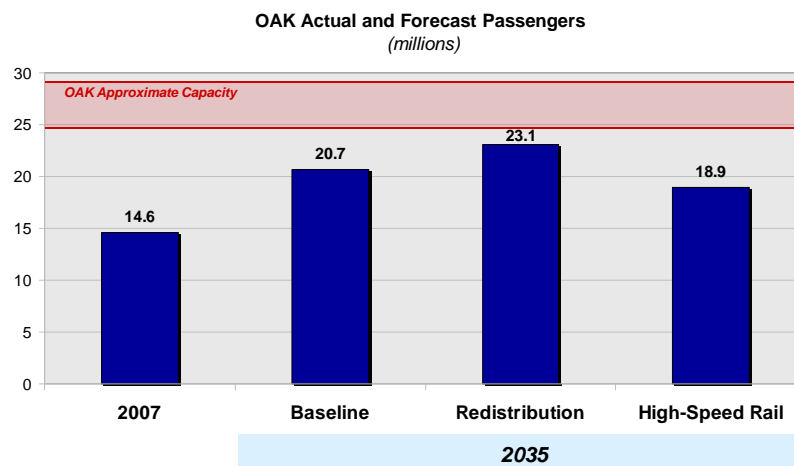
Individual Airport Forecasts

In the Baseline, Passengers at SFO are Forecast at 64.4M



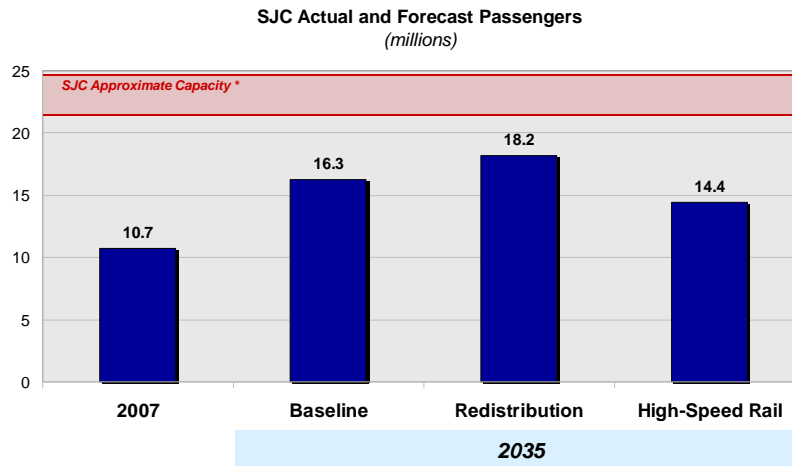
Individual Airport Forecasts

OAK Passengers are Forecast at 21M in the Baseline, but Could Vary from 19M to 23M with High-Speed Rail or Redistribution



Individual Airport Forecasts

SJC is Forecast at 16M Passengers in the Baseline and Could Range from 14M to 18M with High-Speed Rail or Redistribution

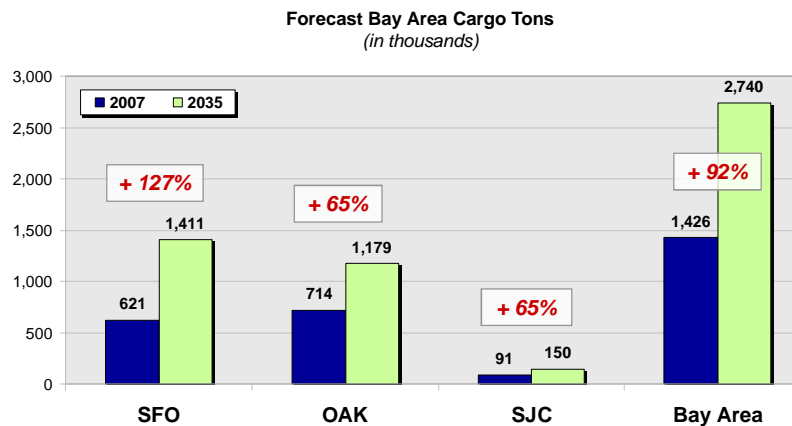


* Reflects landside constraints rather than runway capacity.

11

Individual Airport Forecasts

Cargo Tons are Forecast to Grow the Fastest at SFO Due to Forecast Growth in International Cargo Demand



Note: Enplaned plus deplaned tons. Includes freight and mail for passengers airlines and all-cargo airlines.

12

Scenario Analysis

Six Scenarios were Analyzed

- ◆ **Airport Traffic Redistribution**
 - In response to delays at SFO, domestic traffic shifts from SFO to OAK and SJC through natural market forces
- ◆ **Internal Alternative Airports**
 - Some Bay Area passengers are served at secondary airports in the Bay Area region (Sonoma County, Travis AFB, and Buchanan) reducing demand at the primary airports
- ◆ **External Alternative Airports**
 - Service development at Sacramento, Stockton, and Monterey reduces passenger demand originating from outside the Bay Area region
- ◆ **High-Speed Rail**
 - Proposed rail service to Southern CA diverts air passengers from planes to trains
- ◆ **New ATC Technology**
 - NexGen technologies create more capacity during bad weather, reducing delays
- ◆ **Demand Management**
 - Demand Management strategies at SFO reduce small aircraft operations during the most delay prone times of the day

Scenario Analysis

Scenario Considerations

- ◆ **Redistribution, Internal Airports and External Airports**
 - Depends on airline decisions and passenger airport choice
- ◆ **Air Traffic Control Technologies**
 - Assumed availability of an optimal set of technologies
 - Timing, funding, equipage and airline acceptance are uncertain
- ◆ **High-Speed Rail**
 - Uncertainty of funding, ultimate implementation, and airline competitive response
- ◆ **Demand Management**
 - Limited U.S. airport experience
 - Program form and effectiveness will be determined by airport operators and the US DOT/FAA

Summary

Screening Analysis Results

Goal:							
Scenario:	Economy	Reliable Runways	Good Service	Convenient Airports	Climate Protection	Clean Air	Livable Communities
Metric:	Average Aircraft Delay	Average Aircraft Delay	Flight Frequency in Top 15 O&D Markets	Average Ground Access Time	Green House Gases (CO2)	Hydrocarbons (Nox+VOCs)	Population in 65 CNEL
Redistribution	●	●	●	●	●	●	●
Internal Airports	●	●	●	●	●	●	●
External Airports	●	●	●	●	●	●	●
High-Speed Rail	●	●	●	●	●	●	●
ATC Technologies	●	●	●	●	●	●	●
Demand Mgmt	●	●	●	●	●	●	●

Impact vs. Baseline

● High Impact
● Medium Impact
● Low Impact

Improvement Criteria

Aircraft Delay	All Other
≥ 50%	≥ 10%
15 to 49%	5 to 9%
< 15%	< 5%

Notes: Climate Protection, Clean Air and Livable communities exclude impacts of trains in High-Speed Rail scenario

16

3. INDIVIDUAL MEETINGS

Levels of attendance and participation varied at each of the three meetings, which included discussion of issues that were unique to the host community. The following information summarizes the individual meetings.

SOUTH SAN FRANCISCO, MAY 10, 2010

ATTENDEES: Approximately 15 people attended the meeting.

Introductions

Richard Garbarino, a councilman from South San Francisco and RAPC Board Member, introduced the Regional Airport Study and described the roles of RAPC (a policy committee of the Association of Bay Area Governments), the San Francisco Bay Conservation and Development Commission (BCDC), and the Metropolitan Transportation Committee (MTC) in this regional study of air transportation in the Bay Area. In the introduction, Mr. Garbarino noted that RAPC is approaching the Regional Airport Study differently than it has in the past in two ways. First, the geographic scope has been expanded to include the neighboring counties of Monterey, San Joaquin, and Sacramento, recognizing that the residents of these counties use Bay Area airports. Second, rather than looking at adding new runways to increase capacity, the study explored ways to use existing infrastructure more efficiently through new and improved technology, as well as strategies to manage demand more effectively and redistribute flights in the Bay Area, and considered modes other than air, such as rail and bus, to move people.

Mr. Garbarino asked for input from the community and stakeholders about the study and how well the scenarios address the study goals. In particular, Mr. Garbarino asked for input on how well the study addressed San Francisco International Airport (SFO) and projected congestion at that airport, noting that if SFO continues to operate efficiently, air travel for residents of the

MID-POINT MEETING SUMMARY

peninsula will be more convenient. However, some of the solutions result in reducing flights at SFO and redistributing them to other airports, which may reduce convenient service to peninsula residents. Other alternatives may result in an increase in the number of flights that may be accommodated at SFO, and peninsula residents may want to know what this increase may mean for traffic and noise around SFO.

Polling

Most meeting participants have been actively involved in airport planning discussions. Because attendees were well informed, the original plan to conduct a polling exercise with attendees was abandoned in favor of more informal discussion of airport issues and trends.

Discussion

Following the presentation, there was general discussion of next steps. Attendees participated in brainstorming about where the Regional Airport Study was going and what difficulties could be anticipated moving forward. The following observations were made:

- The assumptions appear very aggressive. The different scenarios are not likely to have enough support to achieve the projected results.
- The community would like to hear less about the technical aspects of the project and more about how it will impact them in practical terms, such as:
 - How loud will it be in my community?
 - How long will I have to wait for a flight?
 - How will this affect my business?
- One member of the public indicated that all of the right components appeared to be in discussion and suggested that:
 - We shouldn't fill the bay to increase capacity.
 - We should be able to expand capacity by smart technology to allow for side-by-side landings.
 - SJC isn't a good option because of the proximity to development, including high-rise buildings.
 - Oakland may have the ability to construct a second runway without filling the bay.

FAIRFIELD, MAY 11, 2010

ATTENDEES: Approximately 40 people attended the meeting.

Introductions

Jim Spering, a Solano County supervisor and RAPC Board Member, introduced the Regional Airport Study and described the roles of the RAPC (a policy committee of the Association of Bay Area Governments), BCD, and MTC in this study of air transportation in the Bay Area at a regional scale. In the introduction, Mr. Spering noted that RAPC is approaching the Regional Airport Study differently than it has in the past in two ways. First, the geographic scope has been expanded to include the neighboring counties of Monterey, San Joaquin, and Sacramento, recognizing that the residents of these counties use Bay Area airports. Second, rather than looking at adding new runways to increase capacity, the study explored ways to use existing infrastructure more efficiently through new and improved technology, as well as strategies to manage demand more effectively and redistribute flights in the Bay Area, and considered modes other than air, such as rail and bus, to move people.



Mr. Spering asked for input from community members and stakeholders about the study and how well the scenarios address study goals. In particular, Mr. Spering asked for feedback about study recommendations for further analysis of the joint use of Travis Air Force Base for commercial passenger flights and the scenario that would result in more flights out of Sacramento International Airport. Both of these options could increase the convenience of air travel for residents of Solano County. However, Solano County residents may be concerned about increased noise or traffic from new commercial service at Travis Air Force Base or may not feel comfortable with the joint use of a military facility.

Polling

Before presenting study information and analysis, participants were polled to understand their travel choices and preferences.

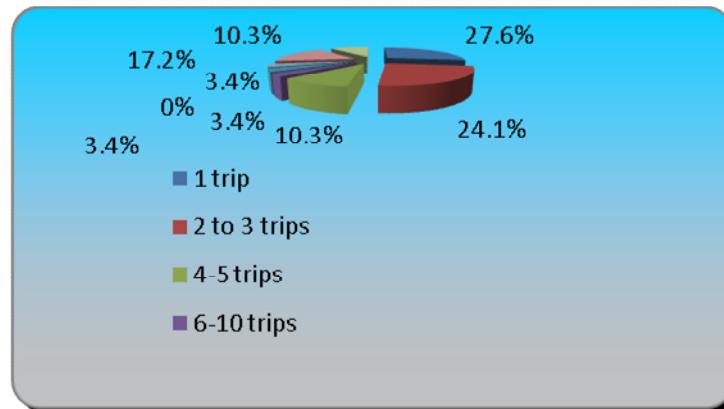
1) Which Bay Area airport do you use most frequently?	Responses	
Oakland International Airport	2	40%
San Francisco International Airport	2	40%
San Jose International Airport	1	20%
Other	0	0%
Totals	5	100%



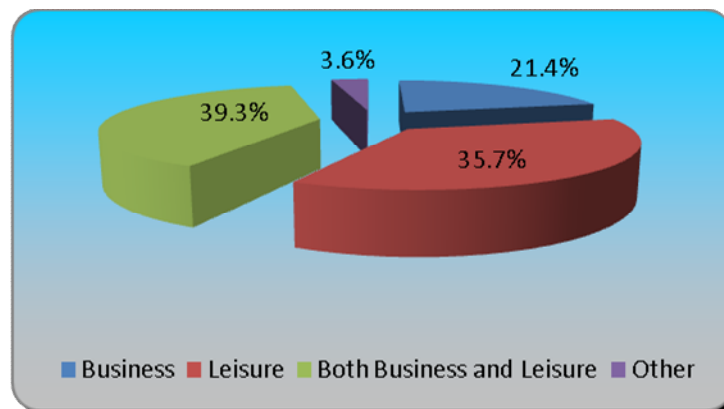
2) Which Bay Area airport do you use most frequently?	Responses	
Oakland International Airport	5	17.86%
San Francisco International Airport	7	25%
San Jose International Airport	0	0%
Other	16	57.14%
Totals	28	100%



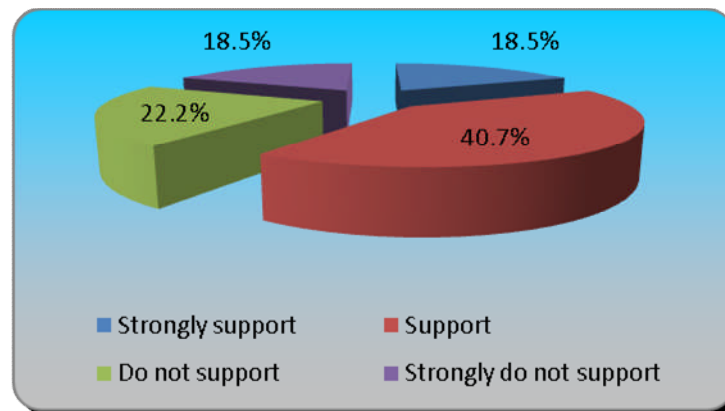
3) How often have you used a Bay Area airport in the last 12 months?	Responses	
1 trip	8	27.59%
2 to 3 trips	7	24.14%
4–5 trips	3	10.34%
6–10 trips	1	3.45%
11–15 trips	1	3.45%
16–30 trips	0	0%
31 or more trips	1	3.45%
Less frequent or non-users	5	17.24%
Don't know or not applicable	3	10.34%
Totals	29	100%



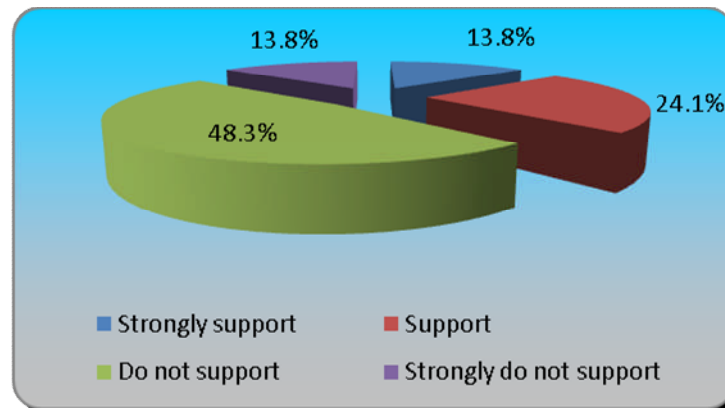
4) What is the primary reason you fly from a Bay Area airport?	Responses	
Business	6	21.43%
Leisure	10	35.71%
Both business and leisure	11	39.29%
Other	1	3.57%
Totals	28	100%



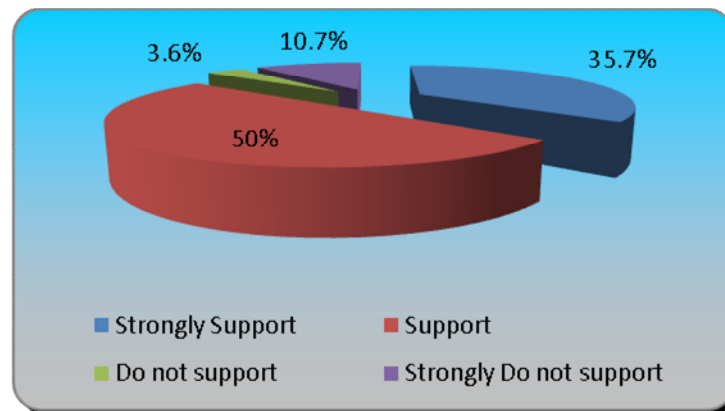
5) What is your opinion of limiting flights to Central and Southern California and using high-speed rail instead?	Responses	
Strongly support	5	18.52%
Support	11	40.74%
Do not support	6	22.22%
Strongly do not support	5	18.52%
Totals	27	100%



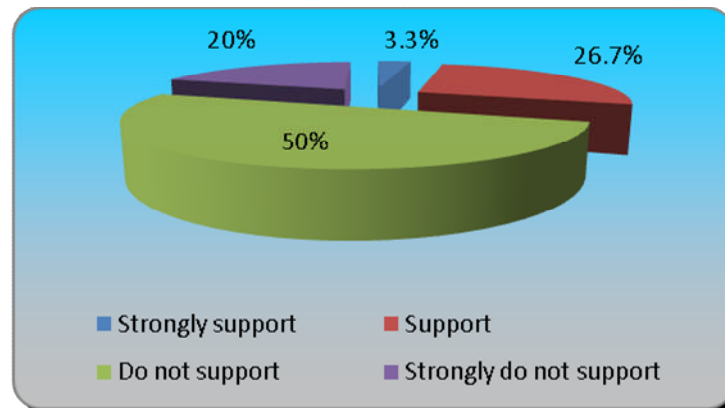
6) What is your opinion of expanding runways at SFO and OAK to accommodate more flights?	Responses	
Strongly support	4	13.79%
Support	7	24.14%
Do not support	14	48.28%
Strongly do not support	4	13.79%
Totals	29	100%



7) What is your opinion of adding commercial service at smaller regional airports in the Bay Area?	Responses	
Strongly support	10	35.71%
Support	14	50%
Do not support	1	3.57%
Strongly do not support	3	10.71%
Totals	28	100%



8) What is your opinion of using larger aircraft at commercial passenger airports, but limiting flights to certain hours?	Responses	
Strongly support	1	3.33%
Support	8	26.67%
Do not support	15	50%
Strongly do not support	6	20%
Totals	30	100%



Discussion

Following the presentation of the Regional Airport Study and informal discussion of the scenarios, meeting participants expressed several observations and identified questions they would like addressed.

- There needs to be a systematic evaluation to weigh all possible scenarios and develop pricing for alternatives
- Design technology and fuel technology is changing so fast; who knows what will be happening in 20 years.
- None of the scenarios provided a distinct separation of the type of aircraft movement (e.g., separate cargo & passenger).
- Levels of general aviation are too high at major airports – maybe they should be moved to smaller airports.

MID-POINT MEETING SUMMARY

- There should be greater weight to the infrastructure surrounding the airports. It is the time it takes to get to, park at, and get through the airport that keep people from different airports.
- There's going to be a major requirement to improve flight control technology because of the complexity of activity at airports. What we have today can't handle the load.
- Travis would be a good hub for cargo (particularly because of the security issues of combined passenger and military uses).
- Only about 5% of major flights are all cargo, so the only way to impact it is to deal with passenger traffic. Therefore you need to develop infrastructure to redirect passengers away from SFO.
- Security clearance is critical at Travis. Clearing a cargo plane is far easier than clearing a plane full of people.
- Travis shouldn't even be discussed unless the military is supportive.
- Plans to install more wind turbines could create more problems with radar at Travis.
- Old 1976 Joint Use Study envisioned a separate operation on the east side of the airport and that is the only way it will work in today's world.
- Given the loss of funding and BRAC, joint use can be a way to keep Travis open.
- The airlines and cargo carriers need to be in this equation – what incentives can you offer them to move from one airport to another?
- Airline planners should be working with RAPC and RAPC consultants.
- The Air Force should have a technical advisor at the table.
- The incentives for air carriers will only work if there is local benefit to communities in infrastructure, trade.
- Coordinate with the major cargo users to find out what their needs are and if they are looking for opportunities to relocate.
- Keep in mind that a huge amount of cargo is carried in passenger airplanes.
- If 50% of the concern is environmental, Travis options need to acknowledge that there will be noise and other environmental issues that offset the commerce advantages.
- What type of cargo are we talking about? — A high portion is overnight.
- When the three potential internal airports are evaluated, the planning should focus on one and not try to spread the trips between three markets.
- Will the analysis account for changes in ground traffic for people who use the alternative airports?
- Did you consider a hydrofoil between SFO and OAK? — A ferry link is problematic because of security, dredging needs. Also a BART connection was found to be infeasible because of cost.
- The study goals are wide ranging and should be weighted. How will that be done? — The process will include more detailed opportunities for input.
- How would you weight the goals? — I don't know yet.
- If the problem is capacity, why not start the presentation of a cost analysis of the various capacity solutions. Is the problem capacity at IFR? If so, then what are the costs of solving the problem?
- Are the studies going to look beyond the Bay Area? What happens in the larger airport world?
- Scenario #6 is probably the ultimate solution in the next 20 years. Airplanes will fly and land themselves very soon. Air traffic control will be automated. Technology is going to be the ultimate solution.

- Are we trying to disperse passengers throughout the region (and beyond), or are we trying to reduce the loads on SFO in order to accommodate more flights at the big three airports?
- United Airlines should move their maintenance from SFO to Travis.
- What's the expected timeline and milestones?
- Will the diversion of passengers to light rail solve the capacity problem at SFO?

OAKLAND, MAY 12, 2010

ATTENDEES: Approximately 30 people attended the meeting.

Introductions



John Gioia, a Contra Costa County supervisor and RAPC Board Member, introduced the Regional Airport Study and described the roles of the RAPC (a policy committee of the Association of Bay Area Governments), BCDC, and MTC in this study of air transportation in the Bay Area at a regional scale. In the introduction, Mr. Gioia noted that RAPC is approaching the Regional Airport Study differently than it has in the past in two ways. First, the geographic scope has been expanded to include the neighboring counties of Monterey, San Joaquin, and Sacramento, recognizing that the residents of these counties use Bay Area airports.

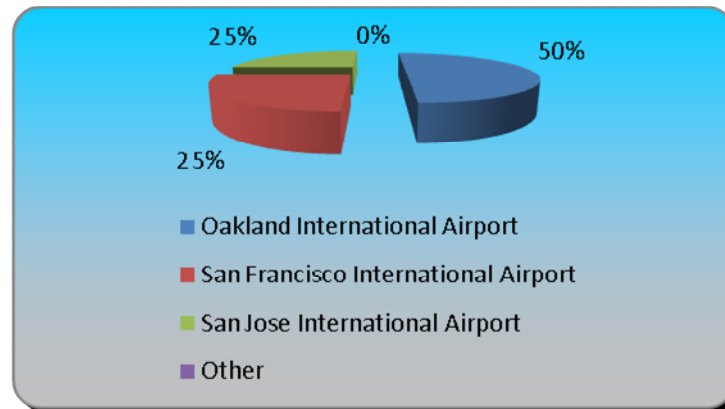
Second, rather than looking at adding new runways to increase capacity, the study explored ways to use existing infrastructure more efficiently through new and improved technology, as well as strategies to manage demand more effectively and redistribute flights in the Bay Area, and considered modes other than air, such as rail and bus, to move people.

Mr. Gioia asked for input on the alternatives, such as the reintroduction of commercial flights at Buchanan Field in Contra Costa County providing the residents in eastern Contra Costa County with more options for air travel. The redistribution of flights from San Francisco International Airport to Oakland International Airport will increase the frequency of flights and the number of destinations that can be reached out of the Oakland airport. However, residents of these communities may also be worried about the potential for increased noise and traffic.

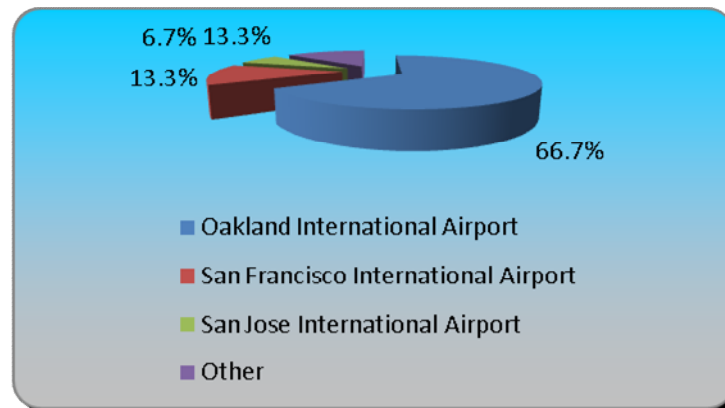
Polling

Before presenting study information and analysis, participants were polled to understand their travel choices and preferences.

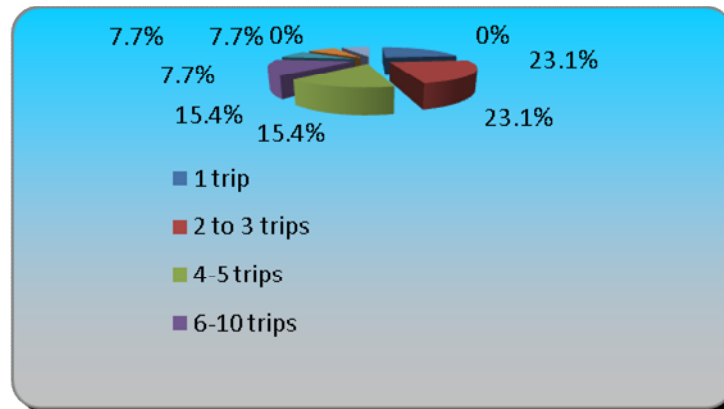
1) Which Bay Area Airport Do You Use Most Frequently?	Responses	
Oakland International Airport	2	50%
San Francisco International Airport	1	25%
San Jose International Airport	1	25%
Other	0	0%
Totals	4	100%



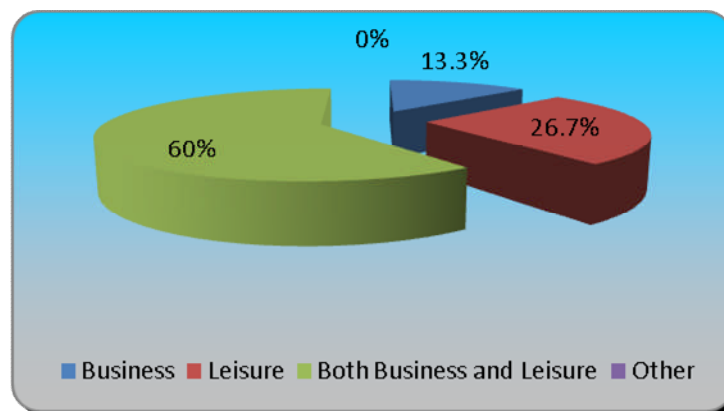
2) Which Bay Area Airport Do You Use Most Frequently?	Responses	
Oakland International Airport	10	66.67%
San Francisco International Airport	2	13.33%
San Jose International Airport	1	6.67%
Other	2	13.33%
Totals	15	100%



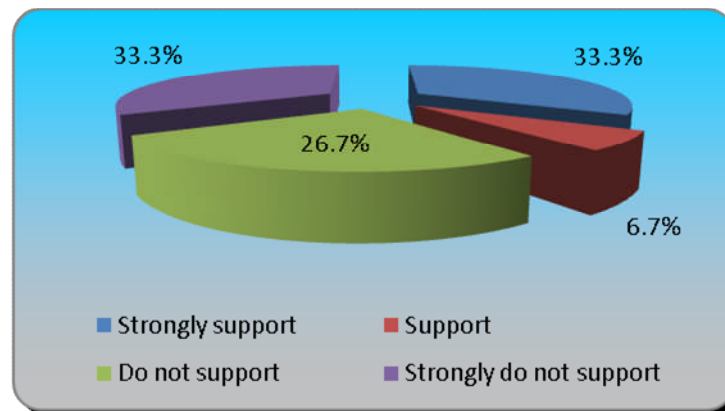
3) How Often Have You Used A Bay Area Airport In The Last 12 Months?	Responses	
1 trip	3	23.08%
2 to 3 trips	3	23.08%
4–5 trips	2	15.38%
6–10 trips	2	15.38%
11–15 trips	1	7.69%
16–30 trips	1	7.69%
31 or more trips	1	7.69%
Less frequent or non-users	0	0%
Don't know or not applicable	0	0%
Totals	13	100%



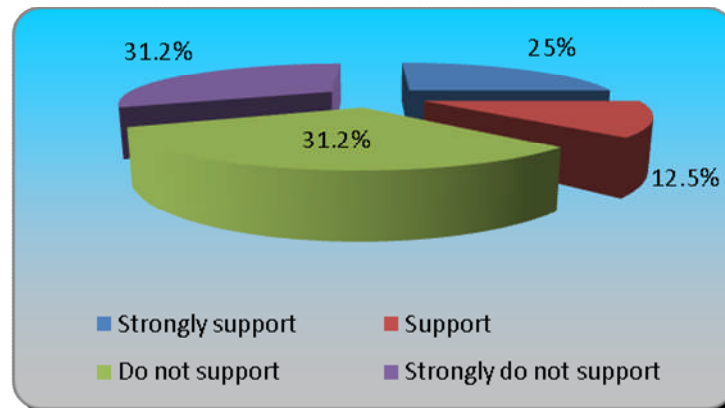
4) What Is The Primary Reason You Fly From A Bay Area Airport?	Responses	
Business	2	13.33%
Leisure	4	26.67%
Both business and leisure	9	60%
Other	0	0%
Totals	15	100%



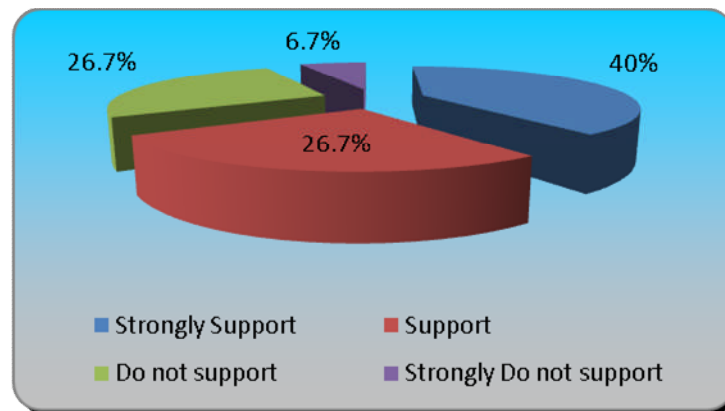
5) What Is Your Opinion of Limiting Flights to Central and Southern California and Using High-Speed Rail Instead?	Responses	
Strongly support	5	33.33%
Support	1	6.67%
Do not support	4	26.67%
Strongly do not support	5	33.33%
Totals	15	100%



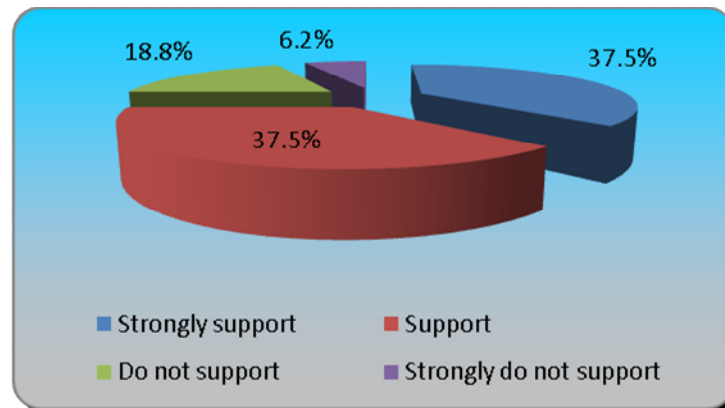
6) What Is Your Opinion of Expanding Runways at SFO And Oak to Accommodate More Flights?	Responses	
Strongly support	4	25%
Support	2	12.50%
Do not support	5	31.25%
Strongly do not support	5	31.25%
Totals	16	100%



7) What Is Your Opinion of Adding Commercial Service at Smaller Regional Airports in the Bay Area?	Responses	
Strongly support	6	40%
Support	4	26.67%
Do not support	4	26.67%
Strongly do not support	1	6.67%
Totals	15	100%



8) What is Your Opinion of Using Larger Aircraft at Commercial Passenger Airports, But Limiting Flights in Certain Hours?	Responses	
Strongly support	6	37.50%
Support	6	37.50%
Do not support	3	18.75%
Strongly do not support	1	6.25%
Totals	16	100%



Discussion

Following the presentation, there was general discussion of next steps. Meeting attendees participated in brainstorming about where the Regional Airport Study was going and what difficulties could be anticipated moving forward. The following observations were made:

- Things that should be included:
 - Capacity problems at SFO – study needs to describe what expansion of the Airport to meet demand would look like.
 - The demographic trends are shifting people from the suburbs back to the cities and that trend should be accounted for in the study.
- Has there been any consideration of sea level rise? All Bay Area airports will be underwater.
- Suggestion to look at revising the goals to encourage multimodal access to the airport and connecting to other forms of transportation.

- Were the weather patterns considered in the relative value of each airport? The answer was yes.
- What is the hold-up for implementing the current air traffic control technology?
- Multimodal access needs to be further explored.
- The study should include an apples-to-apples comparison between different scenarios to see how air stacks up against high-speed rail, auto, etc.
- Multimodal access needs to be better coordinated so that BART actually can serve off-peak-hour travel.
- Has a ferry connection been considered as a way to redistribute demand?
- With the recent merger with United and Continental airlines, how will that affect demand? — Study assumed that even if United went away, the SF market was strong enough that someone would step in.
- Do we really know what the airlines are going to do? How do we work with the airlines to optimize their flights and routes?
- Airlines should be at the table, SkyTran should be at the table, better public involvement, NASA and innovative research firms/organizations should be at the table so that the study can be cutting-edge.
- Information needs to get out to the public. Information needs to come together somehow to inform decision making.
- There needs to be a BART extension to OAK.
- Livable communities should be a high and important consideration. The discussion needs to be focused on noise; aircraft will start operating later and later.
- Analysis of high-speed rail hasn't factored in the delays that will take place to pass through security. Such delays could be comparable to the delays at airports and could level the comparative advantages of high-speed rail.
- The technology exists to make better air quality a reality. There should be more discussion of this, including cost benefit analysis.
- High-speed rail is operating at a high air friction level compared to aircraft.
- What is the governance going to be? Is there some other way to govern air traffic?
- The question was asked: If the study was endorsed, would the regional agencies become advocates?
- The study will involve close coordination with Fairfield, Sonoma County, Concord, and Sana Rosa.
- What is the future of building a new airport in the Bay Area?
- Travis is the only option. It's a ready-made option to the big three airports.
- Transit/transportation access would have to be better in order to make Travis work.
- Contact with the high-speed rail authority is important. Vision California should be considered in the airport discussion.
- ALUCs that were established for the secondary airports should probably be given greater authority to protect aviation to preserve capacity into the future.

4. EVALUATION

At the end of each public workshop, participants were given an opportunity to indicate their level of agreement with eight statements (see below). In addition, participants were polled to find out how they heard about the meeting, to gather a demographic profile, and to find out what primary interest was. Not all participants filled out evaluation forms, so the reported

information does not necessarily reflect the characteristics of all participants, only those who provided evaluation information. The first table below provides a summary of the results from participant responses in aggregate from the three community meetings, followed by individual results from each separate meeting. Few participants submitted evaluation forms.

Results Summary

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
A. I had the opportunity to ask questions in the break-out sessions.	66.7%	22.2%	0%	0%	11.1%
B. I had the opportunity to provide comments.	55.6%	33.3%	0%	0%	11.1%
C. I found the meeting useful and informative.	55.6%	33.3%	0%	0%	11.1%
D. I gained a better understanding of other people's perspectives and priorities.	22.2%	66.7%	11.1%	0%	0%
E. The information presented was clear and contained an appropriate level of detail.	11.1%	66.7%	11.1%	0%	11.1%
F. A quality discussion on key issues took place.	0%	77.8%	11.1%	0%	11.1%
G. I learned more about transportation and airport planning by participating today.	33.3%	44.5%	22.2%	0%	0%
H. There were no barriers (language or other) to my participating in the discussion.	55.6%	44.4%	0%	0%	0%
General Comments					
<ul style="list-style-type: none"> • Don't fill the bay to increase capacity. • Let's hear less about the technical aspects of the project and more about: <ul style="list-style-type: none"> – How loud will it be in my community? – How long will I have to wait for a flight? – How will this affect my business? • The presentation needs to include cost analysis of the various capacity solutions. • There was interest in more analysis of multi-modal transit access (e.g. BART, ferry, bridge) between markets and carriers. • Shared use of Travis has the best potential. 					

SOUTH SAN FRANCISCO, MAY 10, 2010

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
A. I had the opportunity to ask questions in the break-out sessions.	100%	0%	0%	0%	0%
B. I had the opportunity to provide comments.	100%	0%	0%	0%	0%
C. I found the meeting useful and informative.	100%	0%	0%	0%	0%
D. I gained a better understanding of other people's perspectives and priorities.	100%	0%	0%	0%	0%
E. The information presented was clear and contained an appropriate level of detail.	0%	0%	0%	0%	100%

MID-POINT MEETING SUMMARY

F. A quality discussion on key issues took place.	0%	100%	0%	0%	0%
G. I learned more about transportation and airport planning by participating today.	100%	0%	0%	0%	0%
H. There were no barriers (language or other) to my participating in the discussion.	100%	0%	0%	0%	0%
Additional Comments – Meeting Format					
<ul style="list-style-type: none">With Lockheed, Lawrence Livermore Labs, and NASA Ames in the Bay Area, we can be a model of how to optimize capacity using technology.Increasing bay fill needs to be a non-starter.High-speed rail should be routed through the Altamont corridor crossing the bay just south of OAK and SFO with connections to both airports.					

WORKSHOP PROFILE: “LET’S LEARN ABOUT YOU”

1. How did you hear about tonight's meeting?

Source	Percentage
Flyer	0%
www.regionalairportstudy.com	0%
Email Announcement	100%
Other	0%

2. Have you attended a public meeting or workshop on Bay Area transportation in the past?

Response	Percentage
Yes	100%
No	0%

3. What county do you live in?

County	Percentage
Alameda	0%
Contra Costa	0%
Marin	0%
Napa	0.0%
San Francisco	0%
San Mateo	0%
Santa Clara	100%
Solano	0.0%
Sonoma	0.0%

4. What is your gender?

Gender	Percentage
Male	100%
Female	0%

5. What is your age?

Age Range	Percentage
24 years and under	0%
Between 25 and 59	100%
Over 60	0%

6. Are you Hispanic/Latino?

Hispanic/Latino	Percentage
Yes	0%
No	100%

7. How do you identify yourself (click all that apply)

Race/Ethnicity	Percentage
White	100%
Chinese	0%
Vietnamese	0%
Asian/Indian	0%
Black/African American	0%
Japanese	0%
Filipino	0%
American Indian/Alaskan	0%
Other Asian	0%
Other Race	0%

8. How would you describe yourself?

Role/Interest	Percentage
Business Advocate	0%
Environmental Advocate	0%
Community Advocate	0%
Government/Agency Staff	0%
Concerned Individual	100%

MID-POINT MEETING SUMMARY

Role/Interest	Percentage
Social Justice Advocate	0%
Elected Official	0%

FAIRFIELD, MAY 11, 2010

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
A. I had the opportunity to ask questions in the break-out sessions.	25%	50%	0%	0%	25%
B. I had the opportunity to provide comments.	25%	50%			25%
C. I found the meeting useful and informative.	50%	25%			25%
D. I gained a better understanding of other people's perspectives and priorities.	25%	50%	25%		
E. The information presented was clear and contained an appropriate level of detail.		75%	25%		
F. A quality discussion on key issues took place.		75%			25%
G. I learned more about transportation and airport planning by participating today.	50%	25%	25%		
H. There were no barriers (language or other) to my participating in the discussion.	25%	75%			
Additional Comments – Meeting Format					
<ul style="list-style-type: none">I would have liked to see a roundtable panel discussion and a facilitated question and answer period.I wish the background information and executive summary were more easily available before the meeting to provide context for the discussion.					

WORKSHOP PROFILE: "LET'S LEARN ABOUT YOU"

1. How did you hear about tonight's meeting?

Source	Percentage
Flyer	50%
www.regionalairportstudy.com	0%
Email Announcement	25%
Other	25%

2. Have you attended a public meeting or workshop on Bay Area transportation in the past?

Response	Percentage
Yes	25%
No	75%

3. What county do you live in?

County	Percentage
Alameda	0%
Contra Costa	0%
Marin	0%
Napa	0%
San Francisco	0%
San Mateo	0%
Santa Clara	0.0%
Solano	100%
Sonoma	0.0%

4. What is your gender?

Gender	Percentage
Male	50%
Female	50%

5. What is your age?

Age Range	Percentage
24 years and under	0%
Between 25 and 59	50%
Over 60	50%

6. Are you Hispanic/Latino?

Hispanic/Latino	Percentage
Yes	0%
No	100%

7. How do you identify yourself (click all that apply)

Race/Ethnicity	Percentage
White	50%
Chinese	0%
Vietnamese	0%
Asian/Indian	0%
Black/African American	50%
Japanese	0%

MID-POINT MEETING SUMMARY

Race/Ethnicity	Percentage
Filipino	0%
American Indian/Alaskan	0%
Other Asian	0%
Other Race	0%

8. How would you describe yourself?

Role/Interest	Percentage
Business Advocate	20%
Environmental Advocate	0%
Community Advocate	20%
Government/Agency Staff	40%
Concerned Individual	20%
Social Justice Advocate	0%
Elected Official	0%

OAKLAND, MAY 12, 2010

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
A. I had the opportunity to ask questions in the break-out sessions.	100%				
B. I had the opportunity to provide comments.	75%	25%			
C. I found the meeting useful and informative.	50%	50%			
D. I gained a better understanding of other people's perspectives and priorities.		100%			
E. The information presented was clear and contained an appropriate level of detail.	25%	75%			
F. A quality discussion on key issues took place.		75%	25%		
G. I learned more about transportation and airport planning by participating today.		75%	25%		
H. There were no barriers (language or other) to my participating in the discussion.	75%	25%			
Additional Comments – Meeting Format					
<ul style="list-style-type: none">• Webcast the meetings to encourage broader participation.• There were too many speeches during the presentation – there could have been better control of the audience.					

WORKSHOP PROFILE: "LET'S LEARN ABOUT YOU"

1. How did you hear about tonight's meeting?

Source	Percentage
Flyer	0%
www.regionalairportstudy.com	0%
Email Announcement	100%
Other	0%

2. Have you attended a public meeting or workshop on Bay Area transportation in the past?

Response	Percentage
Yes	100%
No	0%

3. What county do you live in?

County	Percentage
Alameda	25%
Contra Costa	0%
Marin	0%
Napa	0%
San Francisco	25%
San Mateo	25%
Santa Clara	25%
Solano	0%
Sonoma	0%

4. What is your gender?

Gender	Percentage
Male	75%
Female	25%

5. What is your age?

Age Range	Percentage
24 years and under	0%
Between 25 and 59	75%
Over 60	25%

6. Are you Hispanic/Latino?

Hispanic/Latino	Percentage
Yes	0%
No	100%

7. How do you identify yourself (click all that apply)

Race/Ethnicity	Percentage
White	100%
Chinese	0%
Vietnamese	0%
Asian/Indian	0%
Black/African American	0%
Japanese	0%
Filipino	0%
American Indian/Alaskan	0%
Other Asian	0%
Other Race	0%

8. How would you describe yourself?

Role/Interest	Percentage
Business Advocate	20%
Environmental Advocate	0%
Community Advocate	20%
Government/Agency Staff	0%
Concerned Individual	40%
Social Justice Advocate	20%
Elected Official	0%



RESPONSE TO PUBLIC WORKSHOP COMMENTS

SOUTH SAN FRANCISCO WORKSHOP (MAY 10, 2010)

We shouldn't fill the bay to increase capacity.

- Response: The purpose of the study is to look at a range of options for serving projected demand that could provide alternatives to filling the bay.

We should be able to expand capacity by smart technology to allow for side-by-side landings.

- Response: The study has evaluated these technologies as a way to address capacity problems at SFO during bad weather. As mentioned in the meeting presentation, many issues still need to be resolved in order for the benefits of these technologies to be fully realized.

SJC isn't a good option because of the proximity to development, including high-rise buildings.

- Response: SJC is a key element of the regional airport system, and some of the strategies being evaluated in the study would be aimed at obtaining more use out of SJC as a way to balance passenger loads among the three airports. Land use compatibility issues will continue to need to be addressed at the local level.

Oakland may have the ability to construct a second runway without filling the bay.

- Response: The study is not looking at new runways at any of the major Bay Area airports; however, a second closely spaced parallel runway at OAK would not result in much new runway capacity compared to one that would be spaced farther apart and would provide for simultaneous aircraft operations on both runways in poor weather. Additionally, existing airport facilities may be too close for a new runway if it is located inland to the east, between the main runway and terminals.

FAIRFIELD WORKSHOP (MAY 11, 2010)

There needs to be a systematic evaluation to weigh all possible scenarios and develop costs for alternatives.

- Response: Yes, that's what the study goals and scenario evaluation are intended to do; comparing the cost of all the scenarios is more challenging because of the many unknowns involved.

Aircraft design technology and fuel technology is changing so fast; who knows what will be happening in 20 years.

- Response: Yes, this is a very difficult aspect of long-range planning for major infrastructure improvements. Our approach will need to be very flexible.

None of the scenarios provided a distinct separation of the type of aircraft movement (e.g., separate cargo and passenger).

- Response: This would be very difficult to accomplish in the real world, given the fact that the airlines make decisions about which airports to serve and what types of service to provide. In addition, dedicated air cargo activity mostly occurs during off-peak hours and the vast majority of cargo is carried in the bellies of passenger aircraft.

Levels of general aviation are too high at major airports – maybe they should be moved to smaller airports.

- Response: This is something we have studied in the demand management scenario, where we assume that the growth in business-jet activity is primarily handled at the region's major general aviation facilities and not at the major airports.

There should be greater weight to the infrastructure surrounding the airports. It is the time it takes to get to, park at, and get through the airport that keeps people from using different airports.

- Response: MTC's long-range transportation plan includes projects that will improve access to airports, which should make it easier to use all the airports in the Bay Area.

There's going to be a major requirement to improve flight control technology because of the complexity of activity at airports. What we have today can't handle the load.

- Response: The FAA is studying these improvements and will likely implement many of them as part of the NexGen effort to upgrade their entire air traffic control and management system.

Travis would be a good hub for cargo (particularly because of the security issues of combined passenger and military uses).

- Response: There must first be a cargo market and airline interest. The initial analysis performed did not identify this as a promising strategy, at least in the near term; however, as noted above, there are many unknowns when it comes to developing long-range plans, and Travis AFB should be protected as a regional aviation resource in case the need arises in the future.

Only about 5% of major flights are all cargo, so the only way to impact it is to deal with passenger traffic. Therefore you need to develop infrastructure to redirect passengers away from SFO.

- Response: In the next phase of our work, we will be looking more closely at strategies that could help spread traffic from San Francisco to OAK and SJC airports, which have available runway capacity.

Security clearance is critical at Travis. Clearing a cargo plane is far easier than clearing a plane full of people.

- Response: Comment noted.

Travis shouldn't even be discussed unless the military is supportive.

- Response: The study has had some preliminary contact with the military on this issue.

Plans to install more wind turbines could create more problems with radar at Travis.

- Response: Comment noted. This issue is being addressed by the County's Airport Land Use Commission.

The old 1976 Joint Use Study envisioned a separate operation on the east side of the airport and that is the only way it will work in today's world.

- Response: The study staff will be meeting with planners at Travis AFB to review the 1976 concept for joint use and determine whether this concept is still valid from a facilities planning standpoint.

Given the loss of funding and BRAC, joint use can be a way to keep Travis open.

- Response: Comment noted.

The airlines and cargo carriers need to be part of the equation; what incentives can you give them to move from one airport to another?

- Response: The airlines are certainly very cost-sensitive these days, so anything that could lower their facility and operating costs would be an incentive. Some airports have subsidized new airline service through federal and local programs, although the goal is to have the service become self-supporting.

Airline planners should be working with RAPC and RAPC's consultants.

- Response: Study staff has attempted to incorporate airline input into our work by having experts who are very knowledgeable about the airline industry as advisors. We have not been successful in getting any airline representatives to participate in our process, as they are more focused on nearer-range plans and surviving the current economic challenges.

The Air Force should have a technical advisor at the table.

- Response: The study team has been in contact with planners at Travis AFB.

The incentives for air carriers will only work if there is local benefit to communities in infrastructure, trade.

- Response: Comment noted.

Coordinate with the major cargo users to find out what their needs are and if they are looking for opportunities to relocate.

- Response: The study is primarily about how to solve long-range capacity problems at the three major airports. Serving the region's projected air cargo needs does not appear to present a major capacity issue for any of the major airports; hence the study has not pursued looking for alternate air cargo facilities.

Keep in mind that a huge amount of cargo is carried in passenger airplanes.

- Response: This is primarily the case for international air cargo, where international carriers use their passenger flights for transporting air cargo. Carrying cargo in the belly of international passenger flights is more economical than handling this cargo with a dedicated all-cargo aircraft.

If 50% of the concern is environmental, Travis options need to acknowledge that there will be noise and other environmental issues that offset the commerce advantages.

- Response: If future plans identify a need for air passenger or air cargo service at Travis AFB, these issues would certainly need to be addressed.

What type of cargo are we talking about? A large portion is overnight.

- Response: The timing of air cargo aircraft operations is one reason they do not present a major capacity issue for the three major airports. Most cargo flights are at different times of the day than passenger flights.

When the three potential internal (secondary) airports are evaluated, the planning should focus on one and not try to spread the trips between three markets.

- Response: Comment noted. That will definitely be a consideration as we evaluate and move forward into the next phase of our work.

Will the analysis account for changes in ground traffic for people who use the alternative airports?

- Response: Yes, the study will evaluate both the passenger benefits (reduced distance, travel time, and cost) and the indirect benefits, such as lower emissions from airport passenger vehicles traveling to closer airports.

Did you consider a hydrofoil between SFO and OAK? A ferry link is problematic because of security, dredging needs. Also, a BART connection was found to be infeasible because of cost.

- Response: Yes, these types of connections between the airports have been mentioned many times, and the benefits to air passengers and the regional airport system appear to be small in relation to the costs.

The study goals are wide-ranging and should be weighted. How will that be done?

- Response: The study has not weighted the goals, as this is clearly a difficult task given the range of opinions about what goals are more important than others. By presenting performance results for all the goals individually, people will have more information to weigh in advising us which goals they feel are most important. And then the regional policy committee for the study can take this input into account in formulating the Vision and Implementation Plan, which will be developed at the end of all the work.

If the problem is capacity, why not start the presentation with a cost analysis of the various capacity solutions. Is the problem capacity at IFR? If so, then what are the costs of solving the problem?

- Response: It would be very difficult to evaluate the costs of all the different scenarios the study has looked at so far on a level playing field, and many of the costs are still unknown (e.g., the final cost for high-speed rail or the full cost of the FAA's NexGen air traffic system). There are both capital and operating costs that must be considered, which would be very challenging to estimate given the large number of cost elements involved and the many assumptions that would need to be made. Solutions to the IFR capacity problem will come with NexGen

technologies, which have many different costs, from technology development and certification, to installation in the field and on aircraft, to the actual operation of the system. It would be difficult to assign a portion of these costs to the Bay Area due to the national scope of the program and say this is the cost of improving IFR capacity at Bay Area airports.

Are the studies going to look beyond the Bay Area? What happens in the larger airport world?

- Response: The study is certainly looking beyond the Bay Area in addressing proposed solutions to capacity problems — from HSR, which is a statewide approach, to use of airports outside the region for handling some of the Bay Area's passenger demand, to new air traffic technologies which are national in scope. We will also be looking at experiences with various demand management approaches that have been tried in other areas.

Scenario #6 is probably the ultimate solution in the next 20 years. Airplanes will fly and land themselves very soon. Air traffic control will be automated. Technology is going to be the ultimate solution.

- Response: Yes, technology looks very promising, but there are caveats as listed in the opening presentation that reflect some major uncertainties as to the ultimate benefits and the time frame in which we will see these technologies come to fruition.

Are we trying to disperse passengers throughout the region (and beyond), or are we trying to reduce the loads on SFO in order to accommodate more flights at the big three airports?

- Response: The study has looked at both approaches and will continue to do so.

United Airlines should move their maintenance from SFO to Travis.

- Response: Comment noted.

What's the expected timeline and milestones?

- Response: The timeline for the study (if that is the question) is to have the recommendations out for review in the first part of 2011 and to have an additional round of public input on these recommendations about the same time.

Will the diversion of passengers to rail solve the capacity problem at SFO?

- Response: High-speed rail would not solve SFO's capacity problems because it would only divert air passengers to rail in some of SFO's California air travel markets, whereas there is a significant amount of service to other domestic and international destinations.

OAKLAND WORKSHOP (MAY 12, 2010)

Capacity problems at SFO – study needs to describe what expansion of the airport to meet demand would look like.

- Response: The study is not looking at runway expansion at SFO. The airport is currently updating an existing terminal to more efficiently serve future passengers.

The demographic trends are shifting people from the suburbs back to the cities and that trend should be accounted for in the study.

- Response: The study has estimated where air passengers would be located in the future using the latest set of regional demographic projections as a basis for these estimates. These include less population in the suburbs and more people in the urban core over the long term. This trend could have both positive and negative effects. It could reduce the amount of vehicle travel to the airports, but it could also increase the number of people living in the vicinity of the three major airports and in areas exposed to airport noise.

Has there been any consideration of sea level rise? All Bay Area airports will be under water.

- Response: Yes, both SFO and OAK are looking at the issue in terms of what is needed to protect their runways.

Suggestion to look at revising the goals to encourage multimodal access to the airport and connecting to other forms of transportation.

- Response: The latest Regional Transportation Plan includes a number of multimodal access improvements for the three major airports. The plan anticipates having good linkages between a future high-speed rail system and

the airports to enable air passengers to transfer between the airports and high-speed rail serving central and southern California.

Were the weather patterns considered in the relative value of each airport?

- Response: The study has looked at 10 years of weather data as part of the runway capacity analysis. Certainly poor weather at SFO has the biggest impact on regional air traveler delays, while OAK and SJC have relatively fewer weather-related delays.

What is the holdup for implementing the current air traffic control technology?

- Response: The FAA's NexGen system is a long-range vision for improving the nation's air traffic performance that involves many separate initiatives. Funding is currently an issue, but beyond that there are still technological and stakeholder issues to resolve as well (i.e., issues for pilots, air traffic controllers, airports, and the air passengers themselves).

Multimodal access needs to be further explored.

- Response: See comment above.

The study should include an apples-to-apples comparison between different scenarios to see how air stacks up against high-speed rail, auto, etc.

- Response: The goals for the study were formulated to facilitate such comparisons. In particular, high-speed rail has been evaluated on an apples-to-apples comparison (to the extent possible) with other scenarios, such as redistributing more traffic between the three airports, use of alternative secondary airports, and new air traffic control technologies.

Multimodal access needs to be better coordinated so that BART actually can serve off-peak-hour travel.

- Response: Comment noted.

Has a ferry connection been considered as a way to redistribute demand?

- Response: See above response to similar question at the Fairfield workshop.

With the recent merger with United and Continental airlines, how will that affect demand?

- Response: While this remains to be determined, the two airlines generally do not have a lot of overlapping routes. So in terms of SFO airline service, there may not be much of a change.

Do we really know what the airlines are going to do? How do we work with the airlines to optimize their flights and routes?

- Response: This is probably the most difficult aspect of this type of study, as it is very difficult to determine what airlines will do in the next year, not to mention the distant 2035 future. While the public and regional agencies can express preferences for how the airport system should be configured to handle projected demand, the airlines are solely responsible for their routes, fares, and deciding which airports they will serve. The next phase of the study will determine the extent of opportunities to influence these airline decisions, through various demand management approaches that the FAA and a few other airports have tried.

Airlines should be at the table, SkyTran should be at the table, better public involvement.

- Response: See above comment about airline participation. All meetings of the study are open to interested parties to attend.

NASA and innovative research firms/organizations should be at the table so that the study can be cutting-edge.

- Response: A NASA representative intimately familiar with NexGen serves on our expert panel evaluating new air traffic control technologies.

Information needs to get out to the public. Information needs to come together somehow to inform decision-making.

- Response: Yes, this is being done in many formats. The study's website is a good source of information: www.regionalairportstudy.com.

There needs to be a BART extension to OAK.

- Response: BART is still planning to construct this extension.

Livable communities should be a high and important consideration. The discussion needs to be focused on noise; aircraft will start operating later and later.

- Response: One of the study goals is livable communities, and the noise impact from additional passenger and air cargo flights has been evaluated in terms of the regional population exposed to airport noise levels of 55 and 65 CNEL. This evaluation has also considered how aircraft operations may shift from less to more noise-sensitive hours of the day due to flight delays and other influences. This evaluation has been performed for each of the six scenarios, so the information is being considered in the technical and decision process.

Analysis of high-speed rail hasn't factored in the delays that will take place to pass through security. Such delays could be comparable to the delays at airports and could level the comparative advantages of high-speed rail.

- Response: This issue has been raised with the California High-Speed Rail Authority, and they believe that such a rigorous TSA-type system will not be required. If such a system were to be put in place, it would affect the ridership estimates for high-speed rail, as additional time would need to be allocated for each passenger's trip to go through screening.

The technology exists to make better air quality a reality. There should be more discussion of this, including cost benefit analysis.

- Response: One of the study goals is clean air. The study has looked at future emissions from aircraft and automobiles used by air passengers to travel to and from the airports as a way to determine future trends. Automobile emissions are clearly on the decline due to stringent regulations on manufacturers, but as flight volumes increase, aircraft emissions (primarily nitrogen oxides and hydrocarbons, which combine to form ozone) will also likely increase as there is no new technology for aircraft engines that can offset these increases.

High-speed rail is operating at a high air friction level compared to aircraft.

- Response: The study has looked at the relative greenhouse gases generated by aircraft and high-speed rail, and high-speed rail appears to offer significant greenhouse gas reductions due to its electric power source, even considering aerodynamic drag at 220 mph speeds.

What is the governance going to be? Is there some other way to govern air traffic?

- Response: The main governance for air traffic is air safety. The FAA has imposed flight limits in the past on several highly congested airports to ensure both safety and efficiency of aircraft operations.

The question was asked: If the study was endorsed, would the regional agencies become advocates?

- Response: That is clearly the intent of the regional agencies involved in the study. The overall goal of the study is to develop regional consensus for an approach to the Bay Area's airport capacity issues and then to advocate for the measures required to achieve this approach.

The study will involve close coordination with Fairfield, Sonoma County, Concord, and Santa Rosa.

- Response: Yes, and the study staff is coordinating with airports and elected officials in these areas.

What is the future of building a new airport in the Bay Area?

- Response: Highly unlikely due to costs and environmental impacts. The study looked at this issue early on, and it is not under consideration. However, Travis AFB is still being considered, and if used for civilian operations, this would involve building new facilities separate from the military operations. So in a sense, this would be a new airport.

Travis is the only option. It's a ready-made option to the big three airports.

- Response: The demand forecasts, however, do not indicate a strong natural market for Travis AFB, which is located in between two fairly large and cost-competitive existing commercial airports—Oakland and Sacramento. Airline service at Travis AFB would likely attract passengers that already use Sacramento airport, plus some passengers that use OAK and SFO. Currently, airlines are reducing service at these types of secondary airports to control costs.

Transit/transportation access would have to be better in order to make Travis work.

- Response: Yes, there would need to be better rail and road connections to the local and regional networks.

Contact with the high-speed rail authority is important. Vision California should be considered in the airport discussion.

- Response: The study does keep in contact with the California High-Speed Rail Authority.

ALUCs that were established for the secondary airports should probably be given greater authority to protect aviation to preserve capacity into the future.

- Response: The ALUC for Travis AFB has been very successful in preserving compatible land uses around the airport, and Sonoma County's ALUC is also involved in plans related to expanded air passenger service. The existing ALUC legislation does allow local jurisdictions to override the ALUC with a two-thirds vote and by making certain "findings"; however, there are ways to address this issue as well without new legislation.



End-Point Screening Workshops SUMMARY REPORT

March 2011



TABLE OF CONTENTS

1.	Meeting Overview	1
2.	Prior Workshops	1
3.	Meeting Format and Presentation Information	1
4.	Individual Meetings	9
	South San Francisco, March 22, 2011	9
	Oakland, March 23, 2011	11
	San Jose, March 24, 2011	13
5.	Evaluation.....	14
	Results Summary	15
	Workshop Profile: "Let's Learn About You"	15
6.	Conclusion	17

1. MEETING OVERVIEW

This report summarizes the discussion and outcomes from the second round of workshops related to the Regional Airport Study (RAS). The second round of workshops was held on March 22, 23, and 24, 2011, in South San Francisco, Oakland, and San Jose. Approximately 73 people participated in the second round of workshops and provided comments through focused discussion on strategies for accommodating long-term aviation demand and in response to the identified issues and recommendations.

RAPC staff representatives from the Metropolitan Transportation Commission (MTC) and the Bay Conservation and Development Commission (BCDC) participated in the presentation and discussion at each workshop. Information related to study findings and the technical aspects of the analysis was provided by SH&E, the consultant to MTC.

During the second round of workshops, information was communicated to participants for the purpose of identifying strategies for accommodating the region's long-term aviation demand by combining components of each scenario to more effectively use and enhance existing infrastructure and facilities without building additional runways at the primary airports.

2. PRIOR WORKSHOPS

The outreach program for the Regional Airport Study included a series of public workshops held in South San Francisco, Fairfield, and Oakland on May 10, 11, and 12, 2010. About 85 people participated in the first round of workshops and provided comments through electronic polling. Attendees participated in focused discussion of airport issues and demand distribution scenarios. The workshops were used to present aviation forecasts, runway capacity issues, and the analytical results of six scenarios that would distribute airport activity throughout the region. Information about the first round of workshops can be found in the Mid-Point Summary Report.

3. MEETING FORMAT AND PRESENTATION INFORMATION

At each meeting, a local representative welcomed participants and introduced the topics that would be discussed. MTC Director Doug Kimsey provided an overview of the need for the Regional Airport Study. David Hollander (SH&E), Chris Brittle (MTC), and Lindy Lowe (BCDC) used a PowerPoint presentation to review study information, issues, and recommendations. The meetings included time for discussion and audience feedback. The following information was presented at each meeting:



Vision

- Bay Area passengers will have a choice of more flights (or trains) at more airports
- There will be fewer weather-related flight delays
- Airport noise impacts on the regional population will be minimized
- Adverse air quality and climate change impacts will be minimized
- Surface travel to airports will take less time
- The airport system will support regional economic expansion

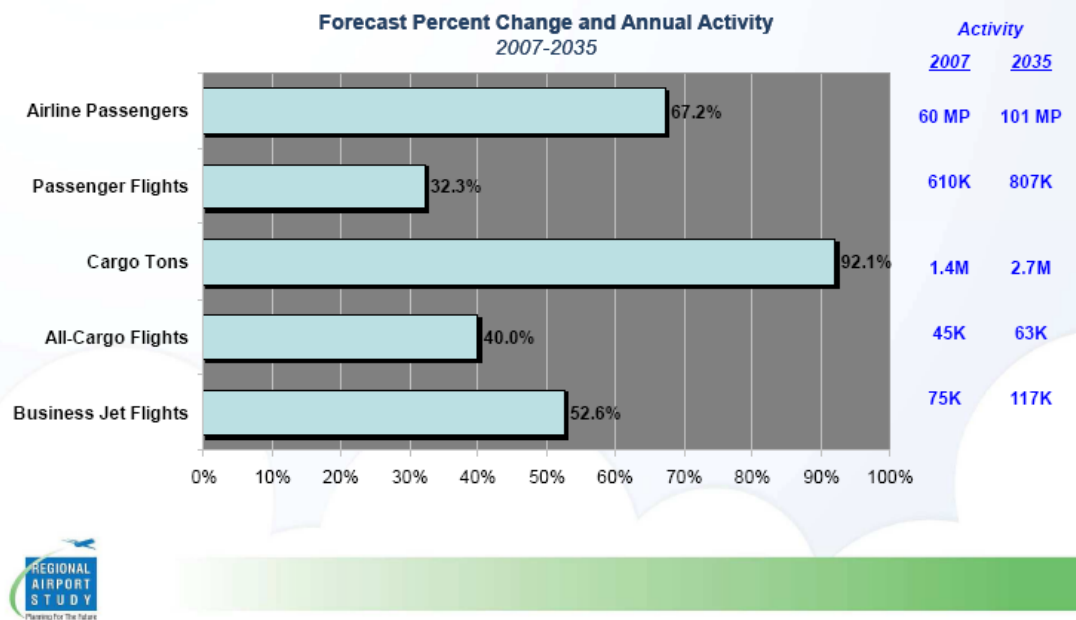


Each Scenario is Measured Against 7 Goals

- | | |
|---------------------------------|--|
| • Reliable Runways | <i>Can we reduce flight delays and passenger inconvenience?</i> |
| • Healthy Economy | <i>Can the region serve future aviation demand and support a healthy economy?</i> |
| • Good Passenger Service | <i>Can we provide better service to the region's major air travel markets?</i> |
| • Convenient Airports | <i>Can we maintain or improve airport ground access times and distance?</i> |
| • Climate Protection | <i>Can we decrease Greenhouse Gas (GHGs) emissions from aircraft and air passengers traveling to airports?</i> |
| • Clean Air | <i>Can we decrease air pollution from aircraft and air passengers traveling to airports?</i> |
| • Livable Communities | <i>Can we avoid increasing the regional population exposed to aircraft noise?</i> |



Baseline Forecast of Bay Area Aviation Demand



Key Planning Issues

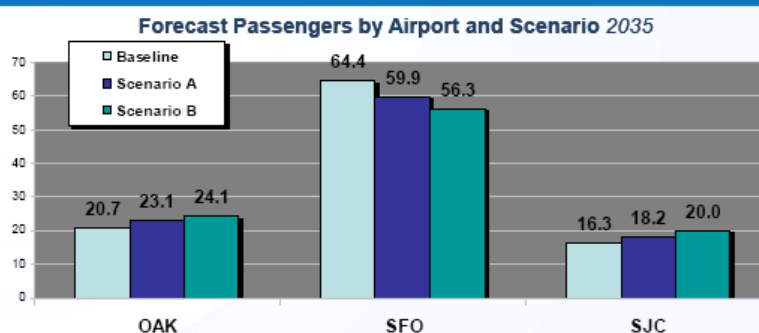
- Delay Problems at SFO
 - Due to increased flights and poor weather
- Increased Airport Noise Impacts
 - Due to increased flights and population growth
 - SFO and SJC
- Growth in air emissions (GHGs/criteria pollutants)
 - Due to increased flights and air passenger trips to airports

Six Scenarios were Initially Analyzed to Serve Long-Range Demand

- **Airport Traffic Redistribution**
 - In response to delays at SFO, domestic traffic shifts from SFO to OAK and SJC through natural market forces
- **Internal Alternative Airports**
 - Some Bay Area passengers are served at secondary airports in the Bay Area region (Sonoma County, Travis AFB, and Buchanan) reducing demand at the primary airports
- **External Alternative Airports**
 - Service development at Sacramento, Stockton, and Monterey reduces passenger demand originating from outside the Bay Area region
- **High-Speed Rail**
 - Proposed rail service to Southern CA diverts air passengers from planes to trains
- **New ATC Technology**
 - FAA's NextGen technologies create more capacity during bad weather, reducing delays
- **Demand Management**
 - Demand Management strategies at SFO reduce small aircraft operations during the most delay prone times of the day



Potential Solutions for Serving 101 MAP in 2035 – Combined Scenarios A and B



Scenario A/B Features:

- ♦ Modest ATC Technology Improvements
 - ♦ Demand Management
 - ♦ Potential High-Speed Rail
- ♦ Greater Use of Sonoma County Airport

Share of Bay Area Passengers			
	OAK	SFO	SJC
Baseline	20.4%	63.5%	16.1%
Scenario A	22.8%	59.2%	18.0%
Scenario B	24.0%	56.1%	20.0%

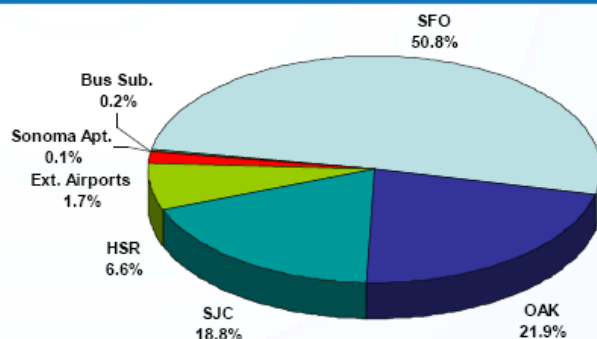


Scenario Effectiveness versus Goals

Overall Effectiveness (highest to lowest)	Goal Strengths
Combined Scenario B with HSR	All Goals
Combined Scenario A with HSR	All Goals
Scenario B (no HSR)	Reliable Runways, Economy, Good Service, Clean Air
Scenario A (no HSR)	Reliable Runways, Economy, Clean Air, Livable Communities
High Speed Rail	Good Service, Climate Protection, Clean Air, Livable Communities
New ATC Technologies	Reliable Runways, Economy
Traffic Redistribution	Reliable Runways, Economy, Clean Air
Demand Management	Reliable Runways
Alternate Internal Airports	Good Service, Convenient Airports
Alternate External Airports	Convenient Airports



Potential Solutions for Serving 129 MAP in 2035 (High Forecast) – Combined Scenario C



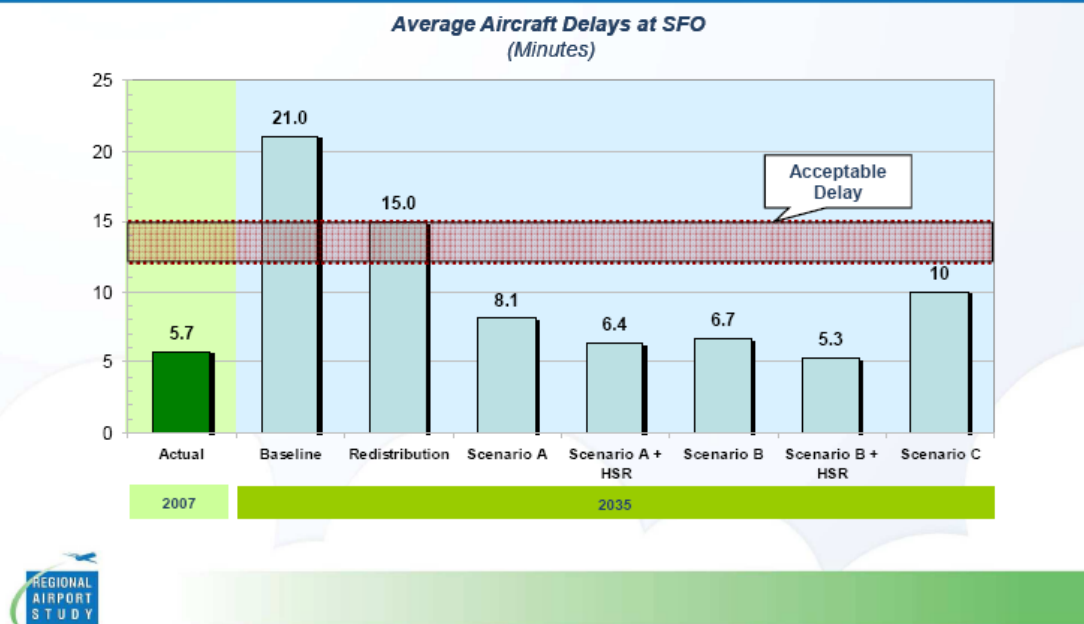
Airport	2035 Passengers (millions)
SFO	65.0
OAK	28.0
SJC	24.0
HSR	8.4
External Airports	2.2
Sonoma County Airport	0.9
Bus Substitution	0.2
Total Bay Area	128.8

Scenario C Features:

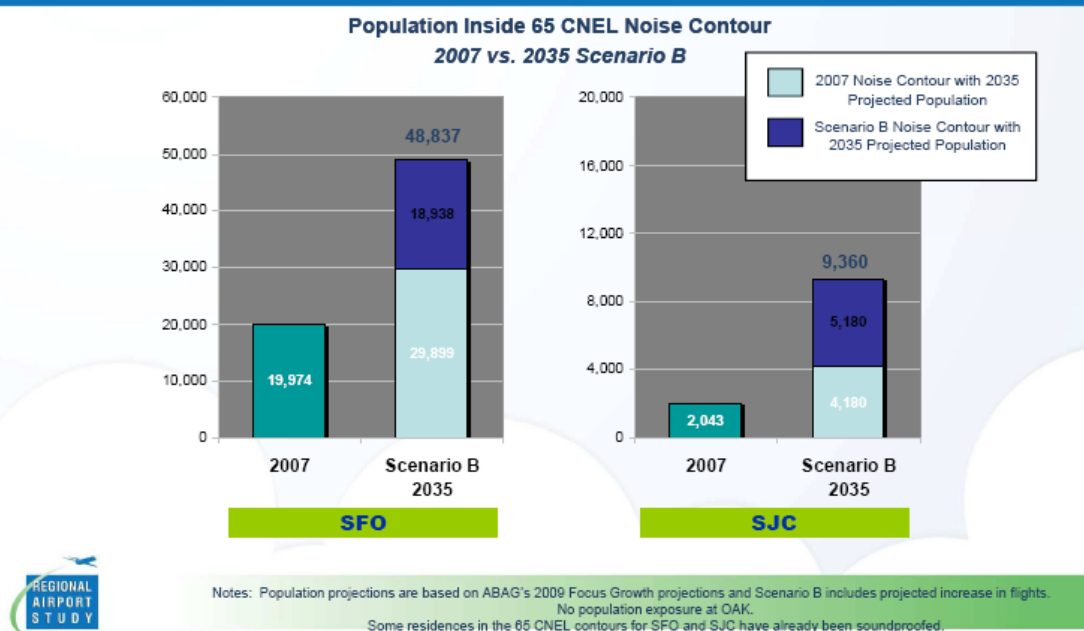
- ♦ Full ATC Technology Improvements
- ♦ Aggressive Demand Management
 - ♦ High-Speed Rail
- ♦ Greater Use of Sonoma County Airport
- ♦ Greater Use of External Airports



Reliable Runways Goal – SFO Average Aircraft Delays for Major Scenarios



Livable Communities Goal – Scenario B Community Noise Exposure versus 2007



Issues and Recommendations, 1-3

- **#1: Changing conditions that alter long-range planning assumptions**
 - Track changes in forecasts, runway congestion
 - Use regional forecasts for airport planning
- **#2: Lack of regional mechanisms to influence airline decisions about airport service**
 - Regional Plans support Scenario B
 - RAPC should explore ways to engage airlines
 - Regional marketing program for OAK/SJC
- **#3: Difficulty implementing airport-originated demand management programs**
 - Future SFO airline agreements should not preclude congestion pricing
 - Bay Area may need to advocate for FAA controls if SFO's are not enough



Issues and Recommendations, 4-5

- **#4: Uncertainty regarding the timing and effectiveness of new ATC technologies**
 - FAA should provide regular updates to RAPC
 - RAPC should engage in advocacy for NextGen funding and Bay Area applications
 - Form coalitions with other regions experiencing major runway congestion problems
- **#5: Uncertainty regarding future HSR Plans and effectiveness of HSR**
 - Periodically review information on effectiveness of HSR in diverting air passengers
 - Encourage discussions between HSR Authority and airlines regarding joint ticketing arrangements



Issues and Recommendations, 6-7

- **#6: Uncertainty regarding future role of some alternative airports**
 - If demand increases faster than forecasted, RAPC may wish to update feasibility study for Travis AFB
 - Protect aviation capability of Moffett Federal Airfield (possible reliever general aviation airport or limited air cargo roles)
 - Continue to involve Sacramento, Stockton, and Monterey airports in our Bay Area planning process
- **#7: Projected increase in community noise exposure (2007-2035)**
 - Airports should confirm long-term noise trends from this study
 - Re-examine Focus Growth projections to lower regional population noise exposure
 - Given SFO's projected noise problem, new approaches may be needed (e.g., look at shifting more departures to Runway 1 for takeoff over the Bay; would require runway lengthening and some Bay fill)



Options for Institutional Arrangements

- **Bay Area airports ownership and operation**
- **Coordination will be necessary for many strategies**
 - Demand management
 - Redistribution
 - Air Traffic Control
 - High-speed rail
- **Options to achieve a more coordinated approach**
 - Regional Authority
 - Joint Powers Authority
 - Regional Airport Planning Committee



4. INDIVIDUAL MEETINGS

Levels of attendance and participation varied at each of the three meetings, which included discussion of issues that were unique to the host community. The following information summarizes the individual meetings.

SOUTH SAN FRANCISCO, MARCH 22, 2011

Attendees: Approximately 23 people attended the meeting.

Introductions

John Birgener, the Planning Director at San Francisco International Airport (SFO) and resident of the City of South San Francisco, welcomed people to the meeting, introduced the Regional Airport Study, and discussed SFO issues and trends, including noise concerns within South San Francisco. In welcoming remarks, Mr. Birgener described SFO operations that accommodated 39 million passengers in 2010 and provided approximately 63,000 jobs. In the presentation, he acknowledged that SFO also received 8,800 noise complaints in 2010 and described the steps (e.g., installation of noise monitors and flight investigations) that SFO took to address noise concerns. Mr. Birgener also pointed out that the City/County Association of Governments for San Mateo County (C/CAG) is preparing a comprehensive update to the Airport Land Use Plan. The update will seek to ensure better compatibility between future land uses and airport operations.

Discussion

Following the presentation, there was general discussion of next steps. Attendees participated in brainstorming about where the Regional Airport Study was going and what difficulties could be anticipated moving forward. The following observations were made:

- One participant strongly supported the proposal to extend Runway #1 at SFO to allow planes to take off over the Bay.
 - They wanted to know how environmental opposition to Bay fill could be overcome.
 - They acknowledged that education and public discussion would be needed.
- Lindy Lowe (BCDC) responded that fill can only be approved if it is the minimum necessary and clearly solves the noise problem.
- One participant suggested that airport delays should be considered less significant than noise impacts.
- A participant identified flight redistribution as a top priority to address both noise and delay issues without filling the Bay noting that:
 - There is enough runway capacity at the three airports to address projected demand, but even distribution isn't happening naturally.
 - Redistribution would be improved if rail existed to allow interairport connections and should tie into high-speed rail to connect travelers to other destinations in the state.
 - Interairport connection should be high-speed rail in a tunnel
 - Redistribution eliminates redundancy
 - CalTrain connections between SFO and SJC should be encouraged.
- A participant suggested that airports should expand the insulation/soundproofing program.

END-POINT SCREENING WORKSHOPS SUMMARY REPORT

- One participant noted that higher-density TOD could expose more people to noise impacts.
- A participant agreed that a regional authority on airports makes sense but was skeptical that it could happen.
 - It was pointed out that there were good examples of where a regional approach had worked in the U.S. (DC and NY) and in Europe.
- Dave Carbone noted that C/CAG is working on a comprehensive update to the Airport Land Use Plan.
 - The update will focus on:
 - Noise issues
 - Height of structures
 - Safety issues around airports
 - Airport influence boundary will include consideration of sensitive receptors within areas of impact. The plan can only address proposed land use changes (general plan amendments, specific plans, etc.), and can't address existing land use designations.
 - People who want to participate should contact San Mateo County (650) 363-4417, Dave Carbone (ALUC update Project Manager) = SFO Airport Land Use Plan update.
- Each staff representative to the RAPC will present the vision implementation analysis to their respective boards and commissions to get their feedback and to identify specific issues that the commissions will need to address.
- Each agency will ask for funding and staffing to support continued advocacy for regional issues.
- There was discussion of the role that airlines had in the discussion, and people wanted to know what airlines were doing to mitigate impacts.
 - It was noted that there has been a significant reduction in noise as the result of FAA requirements to replace noisy planes.
 - It was noted that, in general, the airlines aren't leaders in innovative solutions to noise or other impacts; they usually respond to regulatory requirements.
- The Mayor of South San Francisco thanked RAPC for hosting a meeting in South City. Noise is a huge issue in the community.
- One participant cautioned that redistribution of aircraft may improve noise in one community but transfer the impact to another jurisdiction.

OAKLAND, MARCH 23, 2011

Attendees: Approximately 29 people attended the meeting.

Introductions



In opening remarks, Kristi McKenney, the Planning and Development Manager of the Oakland International Airport and a RAPC member, emphasized the importance of this phase of the Regional Airport Study. In the first round of workshops, analysis of the body of research was presented to ensure there was an understanding of the demand and capacity of the airports and to define scenarios for analysis. The second round of workshops provides an opportunity for feedback on how best to respond to regional demand and capacity challenges. Ms. McKenney acknowledged that no one airport can address

capacity issues on its own and that a regional solution was needed. She did acknowledge that Oakland International Airport provides an opportunity to accommodate additional demand, particularly demand from East Bay residents, as a travel option that is more convenient than SFO and that can reduce surface travel demand.

Discussion

Following the presentation, there was discussion that focused most heavily on noise issues and monitoring methodology. Many of the comments were addressing a level of detail that had not yet been developed, but that would be addressed as some of the RAS recommendations were implemented. The discussion concluded with general discussion of next steps. During the discussion, the following observations were made:

- One participant said it was surprising that the East Bay noise impacts didn't get enough consideration.
 - Questioned FAA noise metrics as being obsolete (referenced City of Alameda litigation and court ruling)
- Another comment was that the analysis doesn't provide enough consideration of impacts to existing homeowners (City of San Leandro representative).
 - Also pointed out that CNL was a bad measure
- Another participant was extremely concerned about the growth in cargo flights and suggested there needed to be more use of high-speed rail for cargo.
- Chris Brittle responded that some of the detailed comments related to noise were more focused than this high-altitude study was equipped to address, but that the analysis acknowledged the problem and the need for it to be considered.
- Another participant expressed concern with a lack of coordination between airports. Pointing to the Hayward airport, he indicated that they're supposed to be a reliever for OAK, but they don't accommodate jets.
- A participant commented that there should be more emphasis on regional high-speed rail ala London, Hong Kong and link it to airports — prefers high-speed rail to BART or local rail.

- Another participant recommended extending BART to San Jose Airport.
- Another comment suggested that single event noise impacts are a problem the study doesn't address. And the study doesn't address time of day noise issues.
- Further distribution of cargo flights was not considered because the providers (UPS, FedEx, etc.) create hubs for efficiency and won't willingly distribute their operations. The airports have no authority to compel redistribution.
- Continuing noise discussion:
 - Wondered what the conditions were at Moffett where a lot of the cargo flights originate. Chris responded that there was no interest in developing cargo at Moffett, so the study hasn't been pursued.
 - If there was less cargo trucking to Oakland, it would improve air quality at Oakland.
- Should consider high-speed rail for cargo.
- Comment that letting Oakland become an international airport created all of the airspace problems. The plan needs to look at getting cargo out of Oakland.
- Someone noted that redistribution is only transferring the problem from one airport to other airports.
- Limited airfreight must be implemented before San Jose, Oakland, and SFO become too impacted. Moffett makes the most sense as an air freight airport.
- The study should address sea level rise because it will likely impact capacity.
- Alameda Naval Air Station should be included as a resource for handling demand and increasing capacity.
- Someone took issue with the idea that there would be no consideration of changing the things that presently exist.
- More comments that noise studies were fundamentally flawed. Insulating homes is a joke because it doesn't address shaking or account for the fact that high noise events spaced apart by 20 minutes can result in acceptable weighted noise standards, while the high noise events are unacceptable.
- Question related to why only SFO noise was considered. Chris Brittle answered that it was because SFO had the worst problem. Commenter hoped that some benefit would come out of the SFO study that helped other communities.
- Comment that Travis can't be considered as a partner in cargo or passenger travel due to continued need for military use and concerns with related security issues. Chris acknowledged that nothing could be done without military consent.
- Comment that air quality is terrible near the airport (they can smell fuel in their back yard). Chris once again pointed out that the air quality and noise comments were more detailed than this study could or should address.
- Comment suggested that the study needs to recognize that there is a limit to the amount of air traffic the Bay Area can take.
- Question about the cost analysis of the recommendations. (Chris answered that, as of yet, cost analysis hadn't been prepared.)
- There were no comments on the identified challenges.
- There were no comments on potential institutional arrangements.

SAN JOSE, MARCH 24, 2011

Attendees: Approximately 21 people attended the meeting.

Introductions

Sam Liccardo, a Santa Clara county representative and RAPC member, introduced the Regional Airport Study and described the roles of the RAPC (a policy committee of the ABAG, BCDC, and MTC) in this study of air transportation in the Bay Area at a regional scale. In the introduction, Mr. Liccardo emphasized the opportunity for San Jose to play a larger role in satisfying regional needs.



Discussion

Following the presentation, there was general discussion that focused on air traffic distribution and the importance of interairport connections. A letter from the City of Mountain View was introduced that focused on Moffett Field. Meeting attendees made the following observations:

- A participant asked what the airport hours of operation are. Chris Brittle answered that only SJC has a curfew (between 11:30 p.m. and 6:30 a.m., no commercial operations of aircraft over a certain noise level are permitted).
- Someone commented that demand distribution is the way to go, noting that to be successful, high-speed shuttles are needed between airports.
- One participant commented that high-speed rail (HSR) terminals need to be in the airport terminal.
- Comment that as long as the airlines think that HSR is competing with them, instead of complementing their services, they will oppose HSR. To be successful, there will need to be extensive education and consensus building.
- Comment that there needs to be a seamless connection between Moffett Field and Bay Area airports if they hope to make a successful bid for Expo 2020.
- Some participants questioned whether any thought had been given to building a new airport in the Central Valley, noting that high-speed rail (HSR) will travel through the Central Valley.
- Comment that because of the uncertainty of NextGen and HSR, the RAS should evaluate demand and capacity without these improvements. It was also noted that capital projects tend to be budget busters.
- Comment that there have been scathing criticisms of NextGen; a participant expressed concern that air traffic control (ATC) technology may prove to be less effective than advertised.
- One person commented that by encouraging electronic meetings and telecommuting, demand from business travel would be reduced.
- A participant asked if the assumptions used for HSR were prepared by a RAPC consultant or did the RAS rely on data generated by the HSR consultants. The commenter went on to indicate that nobody believes the HSR consultants' projections, and no one believes the projected costs of HSR. Chris Brittle responded that the RAS did use HSR data.

- A participant asked if the RAS recommendations would change if there was no HSR. Chris Brittle responded that scenarios A and B were tested with and without HSR in order to allow for informed decision-making, and the recommendations reflect the analysis.
- One person commented that the HSR people are saying that HSR will require new airports/new runways. The RAS doesn't include, or accommodate, new airports or runways.
- Given that the RAS used HSR forecasts, a participant commented that the study should include a footnote saying that the UC Berkeley study concluded the HSR study was flawed. David Hollander responded that the study is clear that the HSR numbers were used, and there is no need to question their validity.
- A participant asked how travel time was calculated for air travel versus HSR. An SH&E representative pointed out that travel time estimates factored in surface travel, time at airports, and flight duration. Chris Brittle pointed out that the RAS wasn't dependent on HSR. It is only under the high growth scenario that HSR is important.
- One person suggested that it would be most effective if the airlines were to operate the HSR. By allowing the airlines to run HSR, they would be less likely to oppose high-speed rail and would get involved proactively in the design and construction of the system.
- A participant noted that redistribution is going to require airline participation, and the airlines have not exhibited any interest in participating. Instead, airlines have pulled flights from SJC and put them in SFO. The participant wondered how the airlines could be induced to come to the table.
- Another participant responded that SFO passenger count peaked in 2000 before 9/11 and after the dot com bust. When the new SFO wing opens, they may get back to capacity and then they'll start putting more flights out of SJC and OAK. Until there is an economic incentive to find other solutions, they will not disperse their flights.
- A participant suggested that the RAS should consider the entire transportation network (airports, BART, Caltrain, etc.) in order to be useful.
- Doug Kimsey noted that the City of Mountain View wanted to introduce a letter into the record for the workshop.
- In response to the referenced Mountain View comments, a participant said he was 180 degrees from the Mountain View position. The commenter noted that Moffett Field is a federal airport that belongs to everyone. Though it wouldn't be a good commercial airport, it would be an excellent General Aviation reliever airport. The commenter suggested that Mountain View was being provincial by proposing to take this federal resource out of circulation.
- A participant asked if the proposal to put Expo 2020 at Moffett Field would require airport closure.
- One participant commented that the discussion didn't really address the goal of making airports more "convenient." The "improvements" to extend BART to SFO have resulted in more expensive and less convenient connections.
- There were no comments on the identified challenges.
- There were no comments on potential institutional arrangements.

5. EVALUATION

At the each public workshop, participants were given an opportunity to indicate their level of agreement with eight statements (see below). In addition, participants were polled to find out

END-POINT SCREENING WORKSHOPS SUMMARY REPORT

how they heard about the meeting, to gather a demographic profile, and to find out what their primary interest was. Not all participants filled out evaluation forms, so the reported information does not necessarily reflect the characteristics of all participants, only those who provided evaluation information. The following tables provide a summary of the results from participant responses in aggregate from the three community meetings.

RESULTS SUMMARY

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
A. I had the opportunity to ask questions in the break-out sessions.	44%	56%	0%	0%	0%
B. I had the opportunity to provide comments.	56%	44%	0%	0%	0%
C. I found the meeting useful and informative.	44%	56%	0%	0%	0%
D. I gained a better understanding of other people's perspectives and priorities.	22%	67%	0%	0%	11%
E. The information presented was clear and contained an appropriate level of detail.	33%	56%	11%	0%	0%
F. A quality discussion on key issues took place.	22%	56%	0%	0%	22%
G. I learned more about transportation and airport planning by participating today.	44%	56%	0%	0%	0%
H. There were no barriers (language or other) to my participating in the discussion.	67%	33%	0%	0%	0%
General Comments					
<ul style="list-style-type: none"> • Noise is a primary concern at OAK and SFO. <ul style="list-style-type: none"> – Different noise standards should be used instead of averaged thresholds. – The recommended study at SFO should be flexible enough to use at all airports. • Traffic redistribution was critically important. <ul style="list-style-type: none"> – There would need to be fast and effective connections between airports. – High-speed rail needs to be integrated into the airport terminals. – Cargo can be shipped by rail or moved to other airports (e.g., Travis, Moffett Field). • There was interest in more analysis of multimodal transit access (e.g. BART, ferry, bridge) between markets and carriers. 					

WORKSHOP PROFILE: "LET'S LEARN ABOUT YOU"

1) How did you hear about tonight's meeting?

Source	Percentage
Flyer	11%
www.regionalairportstudy.com	0%
Email Announcement	56%
Other	33%

END-POINT SCREENING WORKSHOPS SUMMARY REPORT

- 2) Have you attended a public meeting or workshop on Bay Area transportation in the past?

Response	Percentage
Yes	88%
No	12%

- 3) What county do you live in?

County	Percentage
Alameda	33%
Contra Costa	11%
Marin	0%
Napa	11%
San Francisco	11%
San Mateo	22%
Santa Clara	11%
Solano	0%
Sonoma	0%

- 4) What is your gender?

Gender	Percentage
Male	33%
Female	67%

- 5) What is your age?

Age Range	Percentage
24 years and under	0%
Between 25 and 59	78%
Over 60	22%

- 6) Are you Hispanic/Latino?

Hispanic/Latino	Percentage
Yes	22%
No	78%

7) How do you identify yourself (click all that apply)

Race/Ethnicity	Percentage
White	86%
Chinese	0%
Vietnamese	0%
Asian/Indian	0%
Black/African American	0%
Japanese	0%
Filipino	14%
American Indian/Alaskan	0%
Other Asian	0%
Other Race	0%

8) How would you describe yourself?

Role/Interest	Percentage
Business Advocate	0%
Environmental Advocate	9%
Community Advocate	9%
Government/Agency Staff	27%
Concerned Individual	18%
Social Justice Advocate	0%
Elected Official	18%
Other	18%

6. CONCLUSION

At the end of each public workshop, participants were informed that the Regional Airport Planning Commission (RAPC) would meet on April 1 and April 22, 2011. At the first meeting in April, RAPC would review staff recommendations related to potential institutional arrangements that could be implemented to support a regional planning effort. The final recommendations related to the Regional Airport Study would be presented at the April 22, 2011, RAPC meeting. Workshop participants were also given website addresses to gain further access to RAPC material and meeting schedules, as well as email addresses for staff members.

Each workshop began at approximately 7:00 p.m. and adjourned before 9:00 p.m.

RAS RESPONSE TO PUBLIC WORKSHOP COMMENTS

REGIONAL AIRPORT STUDY'S VISION AND IMPLEMENTATION ANALYSIS

SOUTH SAN FRANCISCO WORKSHOP (MARCH 22, 2011)

Strongly support the proposal to extend Runway #1 at SFO to allow planes to take off over the Bay; want to know how environmental opposition to Bay Fill could be overcome

- Response: BCDC can consider Bay fill for airport noise reduction. Any fill would need to be the minimum necessary and provide significant noise reduction. Any proposal for new Bay fill would need additional public education and discussion.

Airport noise impacts on surrounding residents should be considered a more important problem than delays inflicted on air passengers using an airport.

- Response: Comment noted.

Flight redistribution among the three Bay Area airports should be a top priority to address both noise and delay issues without filling the Bay; there is enough runway capacity at the 3 airports to address projected demand.

- Response: The Traffic Redistribution is one of the key elements of the recommended Scenario B in the Study; it is intended to make use of available runway capacity and Oakland and San Jose Airports without Bay fill for new runways. RAPC will be working on ways to implement this recommendation in the future. Traffic redistribution will reduce overall aircraft delays at SFO, but it will also redistribute noise impacts to the other airports, which is an issue that will need to be addressed.

If delays and crowding at SFO get worse, airlines will see that OAK and SJC are underutilized and move/increase service there. If SFO wants to help this process along, it could implement peak period pricing. Also, landing fees should be restructured so that in addition to considering aircraft weight, they would consider the use of ATC resources. A Cessna 150 ties up airspace just like an A380 does.

- Response: The assumption that rising delays at SFO will increase use of OAK and SJC is the main assumption behind Scenario A, which is one of the primary Scenarios evaluated to serve future demand. The recommended Scenario B goes even further by distributing more airline traffic to OAK and SJC, and includes various demand management strategies (similar to those mentioned in the comment) to control delays at SFO and also provide incentives for airlines to use alternative airports.

Air passenger redistribution among the three Bay Area airports would be improved if there was high speed rail connection between airports (in tunnels), such that it wouldn't matter to the airlines which Bay Area airport they served; such a system should also tie into the planned California High Speed Rail system to connect travelers to other destinations in the State.

- Response: It is unclear how the airlines would respond to this type of system approach, but it would be extremely expensive to build and operate and would be well beyond the transportation resources projected to be available to the Bay Area in the next 25 years.

RAS RESPONSE TO PUBLIC WORKSHOP COMMENTS

CalTrain connections between SFO and SJC should be encouraged.

- Response: Caltrain currently serves both airports, but a transfer is required to another transit connection to reach the airport terminals.

Airports should expand the insulation/sound proofing program

- Response: The three Bay Area airports have performed sound insulation on over 18,000 homes and several schools. The study recommendations do call on the Bay Area airports to confirm the long term noise impacts projected in this study for their airports and determine if additional mitigation measures may be needed, such as additional sound insulation in new areas subjected to higher noise levels due to growth in aircraft flights.

Higher density Transit Oriented Development (TOD) could expose more people to noise impacts

- Response: Yes, this issue has been identified in the airport noise analysis conducted for this study. Staff is suggesting that the regional agencies review the latest Focus Growth forecasts, which assign more people to TOD areas, some of which are in an airport's noise impact area. The goal would be to minimize/mitigate new TOD area's exposure to overflight noise.

A regional authority for the three Bay Area airports makes sense, but skeptical that it could happen; some areas that have this approach are in New York, Washington D.C, and in several European cities.

- Response: The staff of the Regional Airport Planning Committee has conducted an initial evaluation of alternative institutional for planning and managing the regional airport system. This work will be continued after this phase of the study is completed.

Involving the airlines in these discussions is important. What are the airlines doing to mitigate impacts?

- Response: There has been a significant reduction in airport noise levels as a result of FAA regulations that were put in place in the early 1990's requiring the airlines to transition their fleets to quieter aircraft; however, airlines generally respond to regulatory requirements, and while there are more recent requirements for newly manufactured aircraft that will mitigate noise, they will not achieve the same magnitude of reduction that the earlier regulations achieved, and noise around airports may start to increase again with growth in aircraft flights.

Contrary to popular myth, the science behind the man-made global warming theory is still not settled. Until the scientific community resolves this controversy, studies such this one should not accept global warming as an established fact.

- Response: The study estimates the amount of CO₂ (the main product of greenhouse emissions as a result of fossil fuel consumption) produced from aircraft and air passenger vehicles in the future. Large portions of the scientific community are settled on the manmade influence, but comment noted.

RAS RESPONSE TO PUBLIC WORKSHOP COMMENTS

OAKLAND WORKSHOP (MARCH 23, 2011)

Surprised that the East Bay noise impacts didn't get enough consideration; the analysis doesn't provide enough consideration of impacts to existing homeowners (homeowner in San Leandro)

- Response: The main purpose of the noise analysis was to assess changes in regional population to noise above the state standard for airports, based on different alternatives for meeting the Bay Area's long range aviation capacity needs. Changes in regional noise exposure were measured by the total Bay Area population inside the future 65 CNEL (state standard) and 55 CNEL noise contours. Because of the regional focus of the study, there were no detailed studies performed of noise levels within specific communities or neighborhoods. Evaluation of these localized impacts are more appropriately handled at the local airport level, through their planning studies and local community involvement forums. RAPC, as a regional planning body, does not have any direct role in resolving airport and community noise issues.

The Community Equivalent Noise Level (CNEL) noise metric is obsolete; single event noise impacts are a problem the study doesn't address. Also, the study doesn't address time of day noise issues with aircraft noise.

- Response: The limitations of the CNEL metric were initially raised by the members of the stakeholder Task Force for the study. The approach taken to recognize that larger set of community concerns with identifying airport noise problems was to add the 55 CNEL noise contour to the evaluation measures. This larger noise contour captures areas where airport noise complaints also often arise. The study did not have the resources to look at alternative noise metrics, but the Bay Area airports have done considerable work in this area. Time of day effects were addressed in the sense that the forecast of aircraft operations were adjusted for operations in the Day, Evening, and Night time periods (which influence the CNEL contours), based on the particular Scenario being evaluated and the changes it would produce in arrival and departure times of commercial flights.

The CNEL metric doesn't account for the shaking that residents experience in their homes when aircraft fly overhead, which can occur at frequent intervals.

- Response: Comment noted.

With the passage of the Airline Noise and Capacity Act in 1990, the FAA basically took away the ability of local communities to control noise at their airports and gave the airlines what they wanted. The airlines were going to retire and replace their older aircraft anyway.

- Response: Comment noted.

Growth in air cargo flights will increase noise. High Speed Rail should be used for air cargo.

- Response: The planned California HSR system, if designed to handle cargo, would probably not reduce flights significantly because only a portion of the air cargo flown into and out of Oakland Airport would be moving between the cities that HSR would serve.

RAS RESPONSE TO PUBLIC WORKSHOP COMMENTS

The plan needs to look at moving air cargo out of Oakland Airport; Moffett Federal Airfield makes the most sense as an air freight airport because a good portion is generated in the South Bay. Also, using Moffett would mean fewer trucks between Santa Clara County and Oakland Airport, which would improve air quality.

- Response: Air cargo is projected to grow more at San Francisco Airport due to the projected growth in international air cargo and the fact that international flights are concentrated at SFO. If cargo facilities are to be developed at another airport, such as Moffett, the air cargo airlines would need to support this concept. Both UPS and FedEx have invested considerable resources in cargo hubs at Oakland Airport because of the efficiency of the location, which is very central to their customer base. New facilities at Moffett would add to their costs and would transfer noise to other communities who currently oppose any major changes in aviation activity at Moffett.

Travis AFB can't be considered as an air cargo airport because it is needed military use and there would be concerns with related security issues.

- Response: Any further consideration of using Travis AFB for civilian passenger or air cargo service would clearly need approval from the military. The study team has had some contact with Travis AFB planners, but it appears that Travis' military role may increase in the future, which would tend to make civilian joint use less likely if this occurs.

There is a lack of coordination between airports; Hayward Airport is supposed to be a reliever for OAK, but doesn't accommodate jets.

- Response: Hayward Airport does handle corporate jet operations. There are airspace issues between Hayward and Oakland Airports which would need to be addressed if Hayward were to handle more jet aircraft.

There should be more emphasis on regional High Speed Rail access to Bay Area airports, similar to London and Honk Kong; this would be more effective than BART

- Response: The California HSR system that is currently being planned would pass near, but not go into SFO and SJC. A connection to BART (SFO) or a shuttle bus (SJC) would be required. Locating a HSR station at the airport is not part of current HSR plans, and would significantly change the alignment and likely substantially increase the cost of the system.

BART should be extended to San Jose Airport

- Response: This is a similar issue to the comment above, in that the alignment for the planned extension of BART to San Jose does not contemplate serving the airport directly and altering the alignment to go into the terminal would add substantial cost.

Letting Oakland Airport become an international airport created all of the airspace problems.

- Response: The main airspace interactions between Oakland and San Francisco Airports occur with the early morning departure routes. The FAA's new NextGen air traffic control technologies have the potential to provide more precise separation of aircraft and reduce the amount of interaction between the two airports.

RAS RESPONSE TO PUBLIC WORKSHOP COMMENTS

The Study should address sea level rise because it will likely impact capacity.

- Response: Both Oakland and San Francisco Airports are currently looking at future sea level rise and ways to protect their runways.

Alameda Naval Air Station should be included as a resource for handling demand and increasing capacity.

- Response: The study does not assume that Alameda Naval Air Station is available for any form of aviation in the future.

Why does the study only recommend a long term noise Study for San Francisco Airport and not Oakland Airport?

- Response: Using either the 65 CNEL or 55 CNEL noise metric, the population exposure for San Francisco Airport in 2035 is very significant and also significantly larger than for either Oakland or San Jose Airports. Further, the traffic redistribution scenarios do not do much to reduce the exposed population. For that reason, the Study recommends that SFO confirm these noise trends using more sophisticated noise modeling tools and start to look now and measures to reduce the airport's long-term noise impacts on the Peninsula. RAPC staff mentioned at the community workshop that such a study could also have some benefits to other communities, depending on its ultimate scope.

Air quality is terrible near the Oakland Airport (can smell jet fuel in back yard).

- Response: The regional study has looked at overall increases in various types of emissions and the potential for different Scenarios to minimize these emissions (both those that lead to the formation of smog as well as contribute to greenhouse gas emissions). The scope of the study did not allow for analysis of localized air quality problems, and this would more appropriately be handled by the local airport operator.

There is a limit to the amount of air traffic the Bay Area can take.

- Response: Comment noted, but there are benefits to having an efficient air transportation system for the Bay Area as well. The Bay Area's economy and local job growth depend heavily on the Bay Area's airports. Setting a limit of flights is also difficult due to FAA policies and regulations designed to ensure reasonable access to air transportation facilities that have been paid for by the public.

Has there been any cost analysis of the recommendations?

- Response: Conceptual costs could be developed for some of the recommendations, but this has not been done to date. Many of the recommendations would be difficult to cost out because the costs are not known or because of the general nature of many of the recommendations. The only specific cost analysis conducted was to assess some of the basic costs for handling projected air passenger demand at several of the alternative airports-- Sonoma County Airport, Buchanan Field (Concord), and Travis AFB.

SAN JOSE WORKSHOP (MARCH 24, 2011)

Are there any other Bay Area airports with limitations on hours of use and what are San Jose Airport's curfew hours?

- Response: San Jose Airport's curfew was "grandfathered" in before the Airport Noise and Capacity Act was passed in 1990. Curfew hours are between 11:30 pm to 6:30 am. No commercial operations of aircraft over a certain noise level are permitted, but some business jets meet the noise limits and can use the airport during these hours.

There needs to be high speed trains shuttles in tunnels between the airports so airlines can schedule their flights at the least congested airport. HSR stations need to be in the airport terminal.

- Response: See responses above.

As long as the airlines think that HSR is competing with them, not complimenting their services, they will fight it. It will require education and consensus building.

- Response: Comment noted. The Study recommendations further suggest that the HSR Authority work with the airlines on joint ticketing arrangements so passengers can buy one ticket for their combined air and rail trip, similar to what is offered for some European HSR services.

There needs to be a seamless connection between Moffett Airfield and other Bay Area airports to accommodate the Expo 2020 event

- Response: If this event does occur at Moffett, the Bay Area transportation agencies will need to plan for good transportation access, including ways to get from the airports to the event.

Has any thought been given to building a new airport in the Central Valley because HSR will come up the Central Valley?

- Response: No, this has not been considered to date. A new Central Valley airport along the HSR line would create rather long access times for Bay Area air passengers, and there would need to be airline interest in constructing an entirely new airport because of the large costs that would be incurred.

Uncertainty of NextGen and HSR need to be considered carefully because large capital projects tend to be budget busters. There has been scathing criticism of the FAA's NextGen program, and the program may prove to be less effective than advertised.

- Response: Comment noted

Encourage electronic meetings and telecommuting to reduced business traffic.

- Response: Rising costs for business air travel may make these types of substitutes more attractive in the future, but so far, there has not been much data available that can be used to project future trends.

RAS RESPONSE TO PUBLIC WORKSHOP COMMENTS

The California High-Speed Rail Peer Review Group's November 2010 report raised a number of questions that collectively called into question the CHSRA's business plan. Until the issues raised by these reports are properly addressed by the CHSRA, any ridership projections or other documents published by the Authority should be considered unreliable. Were the assumptions used for HSR prepared by RAPC's consultant or did the study just use the HSR Authority's forecasts, which have been criticized for their methodology?

- Response: The study used the portion of the HSR Authority's forecasts that addressed the estimated diversion rate from air to rail between different California regions, rather than a specific number of HSR riders estimated by the HSR Authority. The study also looked at actual air to rail activity for other HSR systems in Europe and Japan, and the overall rate used in this study appears reasonable when compared to the results for these systems. HSR is estimated to divert 6% of total Bay Area air passengers to rail in 2035.

Would the Study recommendations change if there was no HSR system?

- Response: Under the Baseline forecast, both the main Scenarios (Scenarios A and B) would be able to accommodate projected future demand without a HSR system. These Scenarios have, as their main elements, traffic redistribution, demand management programs at SFO, and a modest set of new FAA air traffic control technologies. However, with the High Forecast of 2035 air passenger demand (20% higher than the Baseline), HSR would be an essential element of the strategy to serve this level of demand.

Given that the Study used the HSR Authority forecast in some way, the study report should include a footnote saying that a UC Berkeley study concluded the HSR study was flawed.

- Response: The Study reports describe how the HSR Authority ridership numbers were used, and given the reasonableness of the overall diversion rate for air passengers who would switch to rail (see above), this footnote is not necessary.

How was travel time calculated for Air travel versus HSR?

- Response: Like most transportation travel behavior forecast models, the HSR models include various components of a traveler's time--the ground access time to/from the HSR station or airport and ground origin or destination, the terminal time (which for airports includes the time to get through security screening), and the wait time for a plane or train.

Maybe if the airlines were authorized to run their own trains on HSR they would be more interested in supporting the system.

- Response: While this concept has not received much attention to date, it is an interesting idea.

Traffic redistribution is going to require airline participation and they are not indicating any interest in participating. They have pulled flights from SJC and put them in SFO. How do you get the airlines to the table?

- Response: This is something that RAPC intends to pursue as part of the recommendations. Airlines have a short-term planning horizon and have traditionally not been part of the regional airport system planning process, despite efforts to engage them. Their mission is to make money, not to achieve our regional planning goals; however, they should be interested in issues such as rising delays at SFO and the need to upgrade air traffic control technologies, so hopefully these types of issues will elicit more interest in the future in RAPC's work.

RAS RESPONSE TO PUBLIC WORKSHOP COMMENTS

When the new SFO Terminal opens (Terminal 2), SFO may get back to the types of capacity problems and major delays they experienced before 2000. Airlines will then start putting more flights at San Jose and Oakland Airports, but until there is an economic incentive to find other solutions, they will not disperse their flights.

- Response: The study also assumes that rising delays at SFO will cause a natural shift in service to other airports. This is essentially how Scenario A was defined. Scenario B goes beyond the assumed shifts in Scenario A and distributes more air passenger traffic to San Jose and Oakland Airports, but these larger shifts may require new demand management approaches at SFO.

The entire transportation network needs to be examined together, airports, BART, Caltrain, etc. and maybe all modes needs to be placed under one transportation authority.

- Response: Clearly airport use and ground accessibility are closely related. However the key driver for airport use is the service decisions that the airlines make, which would not be under the purview of any new authority. The current institutional arrangements do provide for coordination of regional transportation and airport plans through RAPC and through the normal work of the Metropolitan Transportation Commission.

Letter from City of Mountain View: “The City of Mountain View opposes general aviation, commercial aviation and/or air cargo operations at MFA. The City supports maintaining the airfield as a secured Federal/military airfield under NASA Ames’ authority” “The City is not opposed to future study of the potential for airfield use related to emergencies such as natural disasters...”

- Response: Comment noted.

In response to the referenced letter from Mountain View which opposes any future expansion of activity at Moffett Federal Airfield, it should be noted that Moffett is a federal airport that belongs to all taxpayers. Though it wouldn’t be a good commercial airport, it would be an excellent General Aviation reliever airport. Mountain View’s position is very provincial by proposing to take this federal resource out of circulation.

- Response: Comment noted.

Regarding the proposal to put Expo 2020 at Moffett Federal Airfield – would this require closing the airport?

- Response: We will need to investigate this further.

The discussion didn’t really address the goal of making airports more “convenient”. The “improvements” to extend BART to SFO have resulted in more expensive and less convenient connections relative to the Caltrain connection at Millbrae which used to have a frequent and free shuttle to SFO before BART was built.

- Response: Comment noted.

These so-called transit improvements to SFO and OAK come with higher fares that suppress demand by gouging travelers going to and from the airport. Unfortunately, airports tolerate this because they need to maximize parking revenue.

- Response: Rising costs affect the delivery of all public transportation services. These transit options will be essential over the long term as congestion increases on the regional road system and people need reliable ways to get to and from the airports.